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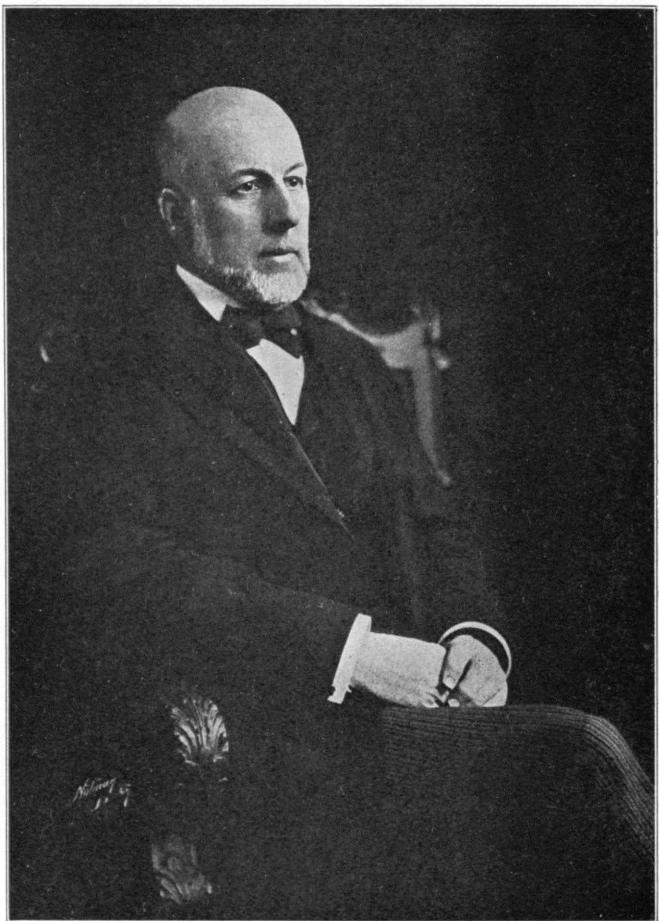
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CHARLES ROBERT CROSS, '70

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PROFESSOR CROSS RESIGNS

The record of a half century devoted to scientific work

Professor Charles R. Cross, who will be accorded a well merited period of rest after forty-six years of the greatest devotion to the Institute, was born in Troy and for many years past has been a resident of Brookline. He is an alumnus of M. I. T., receiving his degree in 1870 with the third class to graduate, and since that time has been a member of the Institute teaching staff. He returned to Tech the fall following Commencement as an instructor and from 1871 till 1874 was assistant professor in physics. The next year his official title included astronomy and from 1875 till 1878 it was descriptive astronomy that he taught in addition to physics. Since 1878 he has been Thayer professor of physics and since 1886 also director of the Rogers Laboratory of Physics.

Professor Cross has been a foremost figure not only in the Institute but in the scientific world; not only in the development of technical education but in work of investigation in various specialties. As a consulting physicist his opinions in the matter of the telephone are historic and in another division of his specialty, that of acoustics, he stands at the head of investigators who have given attention to its musical aspects. Within the Institute he has rendered enduring service by his long continued devotion and enthusiasm. By the establishment of courses in electrical engineering he earned the gratitude of the whole educational world. Recognizing the need of such study in which he was indeed the pioneer, he began in the early eighties the instruction of this specialty as a part of the department of physics. He instituted the courses, developed them and bore the brunt of the introduction of a new line of special education to the world. In the late nineties electrical engineering became a separate department at Tech, one

of the exceedingly important ones in touch with the needs of modern industries. Education owes a great debt to Professor Cross for his foresightedness, the courage of his own convictions and the will power and industry necessary to carry them out.

Within the domain of physics in its more restricted sense, Professor Cross developed the work of experimental lecturing, with great inventive power and discernment and incredible labor in evolving the technique. The line of experimentation in his courses is exceedingly elaborate, and the wealth of material and the methods of handling assembled and developed under his care place Technology at the head of all institutions in this fascinating work.

Outside the Institute Professor Cross has the highest reputation for the quality of his attainments. He is a member of many scientific associations here and abroad and, in the larger world, a foundation member and past president of the Appalachian Mountain Club. In the American Academy of Arts and Sciences he has been for a long time chairman of the Rumford Fund Committee, a most important function devoted to the forwarding of scientific research, and in the great American Association for the Advancement of Science, he is chairman of the Research Committee of the Committee of One Hundred. In the professional world he has been often employed in consultation in most important interests.

THE WORK OF PROFESSOR CROSS AT THE INSTITUTE

BY A COLLEAGUE

Professor Cross has occupied a unique position in the Institute of Technology. In his own person he embodies almost its whole existence—more than fifty years. He entered as a second-year student in 1867, when the Institute had but recently left its first cramped quarters on Summer street for the daring magnificence of the Rogers Building, he retires after a year in a vast edifice beside which old Rogers seems modest enough. In the meantime he has, during thirty-three years, occupied quarters of his own planning in the Walker Building. He was student-assistant in German in his fourth year, instructor in physics for a year, then, at a tender academic age, assistant professor. He has thus been a colleague of every member the Faculty has ever had, save only eight—most of them his teachers—who had retired before his appointment. Of the present Faculty a very large proportion have been his students before becoming his colleagues.

In another notable respect Professor Cross's status is unique. The Institute curricula have always been founded on mathematics, chemistry and physics; they have always included English, history and modern languages as common elements. In most of these subjects, however, classes have been subdivided among several teachers, and in all of them, professors have come and gone after longer or shorter terms. In physics, alone, one man has lectured year in and year out to all second-year students for nearly thirty years, only since 1903 relinquishing half the class to an associate. Thus Professor Cross has taught an incomparably larger proportion of all Tech men than any other member of its Faculty. To thousands of them "Charlie Cross's" lectures in second-year physics are still—however much or little enjoyed at the time—models of clear and elegant scientific exposition. Living in a period of marvellous scientific inventions, with not a few of which his own professional contact has been intimate and important, he has brought to his lectures a continual wealth of fresh experimental illustrations.

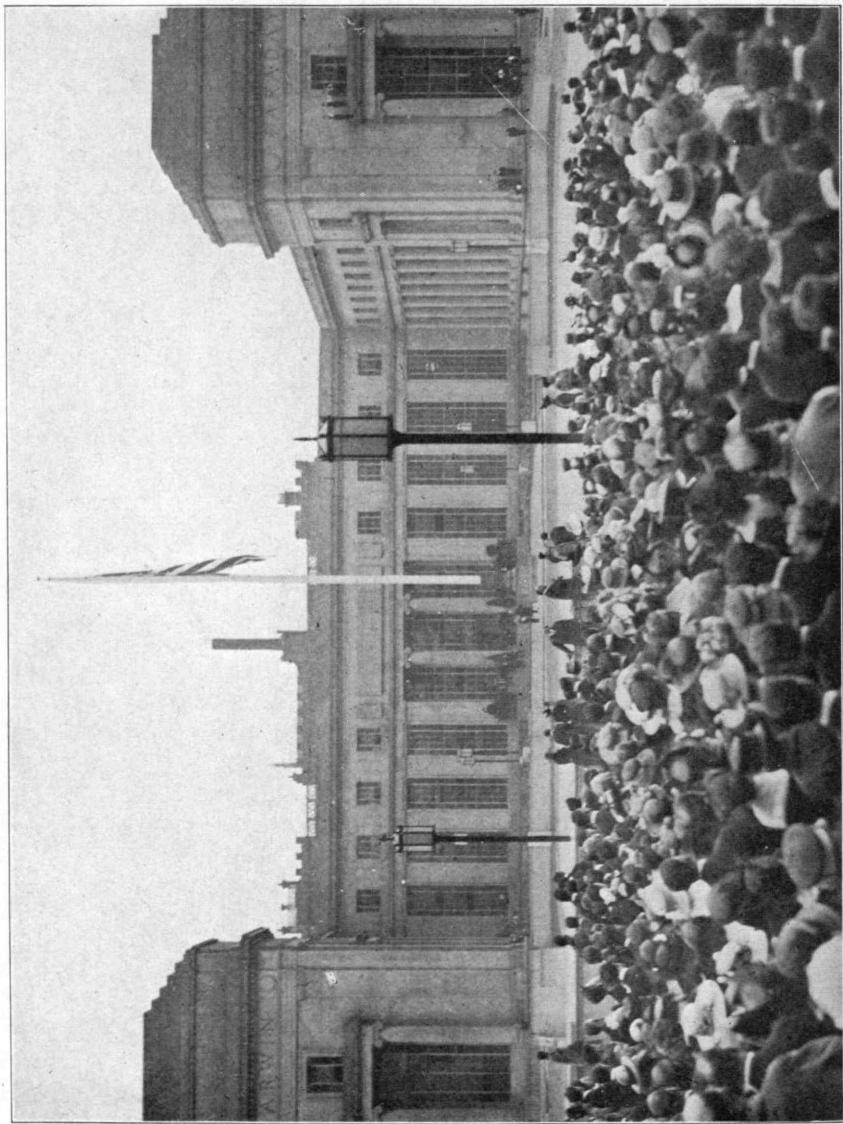
The vitality of the course in physics during all these years has been conspicuously shown both by the scientific distinction of the

men who have graduated from it, and by the successive branching from it of new courses: in electrical engineering (1885), in electrochemistry (1900), and in industrial physics (1914). Among its graduates it may suffice to mention Holman and Goodwin, who have shared with Cross in the development of the department, Hale of Mt. Wilson, Wendell of Columbia, Abbott of the Smithsonian, among many who have won distinction in other fields.

To one who has known Professor Cross for thirty-seven years, those years seem to have touched him but lightly. He seemed not very young in 1880, at any rate to an undergraduate, he seems not very old in 1917. There is the same clear, deliberate, sometimes caustic, thought and expression now as during all that period, the same breadth of interest, the same scorn of low standards, pretentiousness and shams. It was like him to ask excuse from accepting the invitation of his Faculty associates to be their guest of honor at a complimentary dinner.

In another respect Professor Cross's relation to the Institute has been exceptionally fortunate. He knew the school from its small beginnings and knew it whole. To him it could never become a mere federation of separate departments. No small part of our progress and welfare have depended on the centripetal integrating forces which have thus far held their own in counterbalancing the adverse tendencies of increasing size and differentiation. One need not be a mere *laudator temporis acti* to feel that the new Institute cannot afford now, or ever, to sacrifice more than it perforce must of the unity of aims, traditions and ideals which it has so far preserved. That these have been so maintained is due in large measure to Professor Cross.

HARRY W. TYLER, '84.



FLAG RAISING AT COMMENCEMENT

TECHNOLOGY SERVES THE GOVERNMENT

What the Institute has been doing to help in the way of speedy preparation for war

The war found the Institute prepared and glad to put its plant, equipment and brains at the disposal of the government. As soon as war was declared President MacLaurin formally offered the laboratories for whatever use might be made of them, and in addition took steps to acquaint the War and Navy Departments with the resources of M. I. T. The result is that all summer long the white buildings by the Charles have been a scene of constant activity, the government having found the Institute one of the most suitable places at its disposal to train the men who must do our fighting.

The beginning was a course in naval architecture planned to train men quickly as draughtsmen for the navy yards where they were badly needed. Professor Peabody freely offered the services of himself and his department, and about fifty men enrolled for the intensive course which planned to give in ten weeks the principles of marine engineering and design and the practical duties of naval draughtsmen. It was a gruelling course of ten hours a day, in which nearly the regular half year's work was accomplished. By the end of June the men were ready to go to the Charlestown Navy Yard there to do four months' service in the nature of further training before they are taken definitely into government service and given their ratings. The teaching, with which Admiral D. W. Taylor professed himself as being highly satisfied, was done by Professors Peabody and Owen and Evers Burtner. Professor Hovgaard, of the department, who is a former commander in the Danish Navy, is spending the summer in Washington doing special work for the Navy Department. It is probable that the department will continue this work next year, turning out in as large numbers as possible the naval architects so necessary to our increased and urgent ship-building program.

THE NAVAL RESERVE

Next in order came the use of the left wing of the Institute facing the river as a summer school for the naval reserve, commonly

called the "Naval Plattsburg." Here under Captain J. P. Parker of the National Naval Volunteers some sixty men were sent for a four months' training, of the general character of that given at Annapolis, to fit them for ensigns' commissions in the naval reserve. They will graduate in October and will probably be given active service at once.

The Naval Reserve works under as near navy conditions as is possible on land. Their quarters have been termed *U. S. S. Newton*, from the chief name on the pylon of the wing in which they live and the men pass a crowded day to the sound of the bugle, learning military drill, charting, signalling, tactics, work with rapid-fire guns and water evolutions with the two navy cutters moored in the basin. The school at the Institute is the ninth of the sort already established in the United States.

MILITARY GROUND AVIATION SCHOOL

As soon as it became obvious that one of the most important duties of the United States upon her entry into the war was to furnish an overwhelming preponderance of scouting and fighting aeroplanes, to "put out Germany's eyes," our sad lack of aviators became manifest and the government at once looked about for schools at which to give them the preliminary training before they were sent to the flying stations. The Institute was chosen as one of six of these ground schools, the others being Cornell, Ohio, Illinois, Texas and California universities.

As soon as this was decided on, instructors Alexander Klemin and Dean Fales of the Institute and Professor Robert DeC. Ward, temporarily transferred from Harvard, took the federal oath and proceeded to Toronto where they spent several weeks studying the Royal Flying Corps' method of training aviators. On their return the school opened with twenty-five men, who were reinforced each week with twenty-five more, each of whom were to take an eight weeks' course; which meant that once the school was well under way the Institute was housing, feeding and training over two hundred picked men, recruited from Plattsburg and the other training camps.

There is no attempt made to fly. The instruction includes the science of flight, the war uses of aeroplanes, the commanding of flying corps, the theory of heavier-than-air flying, and knowledge of internal combustion engines, rigging, instruments, signalling,

use of compass, wireless and photography, map-reading, artillery observation, bombing and aerial machine guns, and topography. The men study all morning, have drill and calisthenics all afternoon, and study again evenings till the early "taps" is blown.

At date of writing there are about one hundred and fifty men at the Institute and each contingent as it graduates and is sent to the flying grounds is replaced by another. The school is under command of Captain B. U. Mills, U. S. A., assisted by four Institute men, Lieut. Claude H. M. Roberts, '17, former colonel of the M. I. T. battalion, and C. G. Miller, '17, A. F. Benson, '17, and Leon H. McGrady, '17. F. V. duPont, '17, is instructor in combustion engines in the shops.

The importance of this school at the Institute may be seen by the fact that Tech is at present housing and training one fifth of all the aviation students in the United States and it is expected that when the Walker Memorial is available the number may be largely increased.

One of the interesting devices for instruction deserves mention. A large contour map has been built in the basement of the hydraulic laboratory. This map is constructed to such a scale that it has the same appearance from the balcony of the hydraulic laboratory as does the earth to an aviator at an altitude of 5,000 feet. The map is studded with tiny electric lights, each one controlled from a central switchboard. The balcony of the laboratory is connected to the switchboard by a telegraph line. Lights lighted on the map represent shells bursting, and the man on the balcony telegraphs the estimated range to the switchboard. By lighting the light on the map corresponding to the estimated range the observer is shown just how close his observation and estimate was. The system is a duplicate of that used in the schools for the Royal Flying Corps, in Canada.

NAVAL AVIATION SCHOOL

So successful has this school apparently been that the Navy Department decided to do the same thing for its officers in the hydroplane branch of the service. The course, like the other, lasts eight weeks and the first enrollment was about fifty, with fifty more coming in every two weeks. The men will be housed on the top floor of building 2 above the military flying-men, until the Memorial is opened to them.

The most interesting thing about the school is the speed with which an unexpected demand was met and hasty plans put into execution. The story in *The Tech* of July 13, gives the best account of this and other details.

"The plan of establishing such a school for naval fliers was recommended recently to the Navy Department in Washington, and has been under consideration for the past two weeks. A week ago Saturday Secretary Daniels wrote President Maclaurin asking whether such a school could be established at the Institute. Without hesitation President Maclaurin sent an affirmative answer over the wires to Washington. Publicity was not given to the plan as there was a possibility that the scheme would be abandoned; but a concrete proposal followed from the Navy Department Tuesday morning which was accepted by President Maclaurin last week. The school at the Institute is the first of its kind to be established in the United States; and whether other schools of this character will be started at other colleges later will depend on the success of the first unit at the Institute."

In other words the school was decided upon of a Tuesday,—July 10. It was ready to open in four days and actually did open in six days after the Navy Department had made its decision. It is the first of its kind in the country. Professor C. H. Peabody has charge of the actual teaching, assisted by the Institute men who also instruct the military aviators. The commander is Lieut. E. H. McKitterick, U. S. N., and the drill will be in charge of L. F. Hamilton, '14, assistant to Major Cole.

"The course will closely resemble that given to the men training for officerships in the signal enlisted reserve of the United States Army, and will differ only in that importance will be laid on the hydro-aeroplane rather than the machine designed to rise and alight on land. Life in the aviation schools is one of routine. For the first three weeks the men receive military drill from 5.30 o'clock in the morning until it is too dark to maneuver, the infantry work being broken occasionally by periods devoted to signalling and telegraphic code work. During the second period of the eight weeks' stay at the Institute, the fliers receive instruction in the theory of radio telegraphy, aerial navigation, gasoline engines, the art of dropping bombs from airplanes and in correcting the fire of artillery by observation from flying machines.

"Upon finishing their course at the Institute, the airmen will be

sent to the navy flying school at Squantum for instruction in the actual handling of 'planes in the air, and after receiving their commissions and pilots licenses will be detailed to active duty. Whether the naval aviators will be sent to France to aid the Allies' flying corps or whether they will accompany the battle fleet of the United States Navy it has been impossible to determine.

The drawing rooms, on the third floor of building 2, have been cleared of the paraphernalia used in teaching freshmen descriptive geometry and have been equipped with pipe bunks. The navy men will occupy these quarters temporarily, it being planned to move them as well as the cadets of the naval reserve and the signal corps fliers into the Walker Memorial when it opens on September first. No difficulty will be encountered in feeding the students at the new school, as the facilities at the café will permit the serving of twice the number now being cared for. The obstacles of seating the added number of diners will be overcome by suitably arranging the mess hours of the various schools. The dining rooms there will be large enough to serve at one time triple the number that can be handled in the cafeteria in building 2.

The fliers at Squantum have for the past few weeks been coming up from the flying school there to the Institute every few days for evening lectures given by Alexander Klemin, instructor in aeronautics at the Institute and technical editor of *Aviation*. It is probable that the success of these lectures was the cause for the recommendation of the technical school to the Navy Department.

SCHOOL FOR MARINE ENGINEERS

But perhaps of more direct interest to Technology men are those which although under government patronage were conceived of, planned and administered by Tech men. These are the schools for marine engineers and for first officers under the directions of Professors E. F. Miller, '86, and Alfred Burton, respectively.

These schools are the idea of Henry Howard, '89, director of recruiting, U. S. Shipping Board, who saw the immediate necessity of greatly increasing the number of men available to act as deck and engine-room officers in the merchant marine. Not only is the merchant shipping short-handed now but as soon as the boats now being built are put into commission they must be officered, and at present the officers are nowhere in sight. "The country needs," said Mr. Howard, "ten thousand deck and engineer officers be-

sides fifty thousand for deck and engine room crews. They must be found and trained at once."

The school for engineers opened early in July under Professor Miller. The Institute is one of seven colleges undertaking the same work in different parts of the country: the Armour Institute, Washington University at Seattle, Johns Hopkins, the Stevens Institute, Tulane, New Orleans, and the Case School, Cleveland.

Seventy-five men, recruited from technical graduates and others with engine experiences, opened the school, to take an intensive course in the construction and handling of marine engines. The course for those with steam licenses of any kind is four weeks; for others longer in proportion to their needs.

The course here is being given by Professor Miller, Taft, Ames, Jones, Robinson, Bartlett and Raymond. The equipment of the mechanical engineering laboratories does surprisingly well for this work it was not planned for, but as soon as possible several new marine engines will be installed for the purposes of the course.

At present the enrollment is nowhere near what it should be. "The Institute," Professor Miller says, "can take care of three or four times as many men as are here now engaged in this work, and as the tuition is free, anyone with proper experience may, upon application to the shipping board, be admitted."

"The men are kept busy during the entire day. The first hour of the morning is devoted to a lecture, after which the men go to a drawing room and there, under the supervision of an instructor, write up the material they have obtained in the preceding lecture. The next two hours are similarly spent in covering a different subject.

In the afternoon the engineers do experimental work in the steam and compressed air laboratory and write up reports on the results which they observe. The subjects which are required of all men taking the course include steam engineering indicator cards, valve gears, condensers, air, circulating, centrifugal and feed pumps, boilers, injectors, refrigerating machines of both the ammonia and dense air types, gas and Diesel engines, determination of the pitch of propellers and the strength of materials which are most used on board ship.

In addition to the purely technical work, George H. Willey, a

chief marine engineer of sixteen years' experience, delivers lectures on the duties required when a man assumes charge of the watch.

The order requiring graduates of free government navigation schools to take two months' intensive training on board ship after being licensed and before being permitted to accept officers' berths has been suspended by Mr. Howard. Free government navigation school graduates will now be allowed to accept officers' positions immediately on receipt of their licenses from the United States steamboat inspection service. This action was taken because of the pressing need for officers in the American merchant marine.

SCHOOL FOR FIRST OFFICERS

Professor Miller and his associates have had fairly plain sailing with their school, but to Professor Burton has fallen a harder lot. He is in charge of some twenty to twenty-five schools—the number varies from day to day—scattered all over the United States, which it is his business to get going, find teachers for, keep teachers for, replace teachers for, substitute personally for, found new schools and go through the process with *them*. Already this has involved trips to Baltimore, and later to the far south, Florida and points thereabouts.

Dean Burton, professor of topographical engineering, experienced navigator, associate of Peary on his earlier expeditions, is managing these courses to give men who have had two years or more actual sailing experience in whatever capacity, the training which shall fit them to become first officers. The schools are divided into four districts; the northern coast, South Atlantic and the Gulf, the Great Lakes, and the Pacific Coast. These latter have not to date been established. Professor Burton wants a free week for travel before he contemplates the San Francisco school.

The schools at present consist of: Machias, Rockland, Boothbay and Portland, Maine; three in Cambridge (some have already been graduated, as the course is not a long one); New Bedford and Provincetown, Mass.; Greenpoint, L. I.; Philadelphia (two), Baltimore and Norfolk; the Lakes Schools, Buffalo, Cleveland, Chicago and Duluth; and the Southern schools, Charleston, Jacksonville, Mobile, New Orleans, Savannah and Galveston. It is expected that by September the Pacific Coast schools will be opened at Los Angeles, San Francisco and Portland, Oregon.

The teachers are of all sorts. They may be retired sea-captains or navigators, college men with wide cruising experience, college teachers of astronomy and the like, college teachers who know something about sailing (there are a lot of these)—in short almost anybody whose training has fitted him for the work. Some few here in the East are Institute men. Besides Dean Burton who has begun personally the teaching in a good many of them, there is Professor H. W. Smith who has had to do with three or four, Oric Bates, son of former Professor Arlo Bates, W. M. Angas, '17, and an undergraduate, Rudolph Beaver, a graduate of a marine college in Poland.

Henry Howard, in writing about the schools, has explained that he has had thousands of applications for officerships in the merchant marine, not only from retired officers but from younger men who have not yet had the three years' deck experience required under the old rule before a man could get his paper. For these men the rule has been modified to two years, so that any man with decent seafaring experience may secure his free tuition to become an officer. When a man has graduated and passed the Steamboat Inspection Service examination he will serve as extra junior officer for two months on an ocean-going steam vessel. After that he is free to take a job as a full-fledged officer at the prevailing high rates of pay.

And, Mr. Howard adds, Technology and the other schools can take care of just as many men as want to apply. The faster they come the better for the American merchant marine.

THE MILITARY OPTION

But the most important and lasting result of the Institute's alliance with the government is the new military option which begins with the opening of school this September. By this option any undergraduate who wishes, while pursuing his regular engineering course, to take certain prescribed extra courses in military subjects will receive with his diploma a commission in the reserve army, and will be put on the same footing as men who received similar commissions from the army training camps.

It has been said that the Institute will become a second West Point of army engineers, but with one notable difference. Technology will not become a government school. It will remain autonomous, merely offering this military option under the manage-

ment of Major Cole and such officers as the War Department details to the work. The regular curriculum will not be affected except in so far as it is enlarged and made more useful in the present crisis.

Early in the spring a board of army officers, including Major Cole and Major Downing, both detailed to the Institute as instructors, made a thorough survey of the school's curriculum with a view to seeing how nearly able it was to turn out competent military engineers. So nearly complete was the Institute's regular course for this purpose that it was found that a bare fifty hours a year added to a man's usual course would make him fit to receive a commission. This was reported back to the War Department and in July the arrangement was concluded.

In terms of hours this will mean that an entering freshman who desires to get a commission as well as his Institute diploma will take three hours of military work a week for the first two years and five hours a week for the last two years. A good deal of the work necessary under the present curriculum will count on the military side: freshman drill, for instance, surveying, physics, heat and electrical engineering, and the like. All men taking Courses 1, 2, 3, 6, 10, 11, 14 and 15 are eligible, but men from other courses may become candidates for commissions upon petition and with a properly arranged course. It is planned also to include a special aviation option, as the Institute already has a full working department in that subject.

It is hoped that the men already in college who have been doing military work will be able to take advantage of this arrangement and secure their commissions when they graduate. It is to this end that the juniors have been putting in the summer in Cambridge taking drill and anticipating some of their senior subjects, and the sophomores likewise at Camp Cunningham, getting out-of-door war training and leaving their junior year free for advanced work. The sophomores, therefore, hope in this way to secure their commissions in 1919, the juniors when they graduate next June. ■■■

The Institute will be the first school in the country of collegiate rank, except West Point and Annapolis, where this system will be tried out, and the choice of the War Department is a notable but fitting tribute to the efficiency of Technology in the teaching of the various practical sciences which are the very bases of modern warfare.

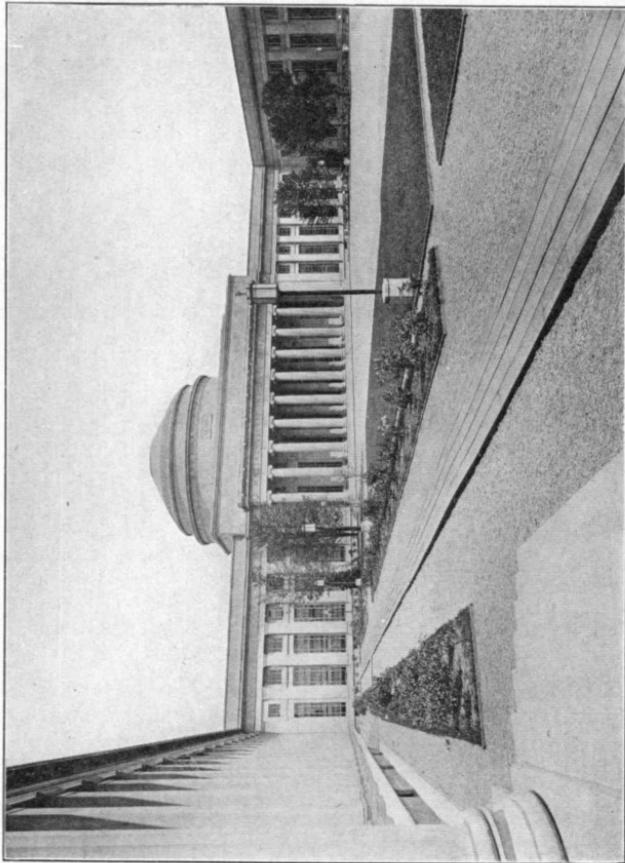
THE WASHINGTON OFFICE

The changing focus in Washington and the permanent results

The steps by which the alumni set to work to mobilize and organize the resources of Technology men have already been set forth at length in past issues of this magazine. By the time the Technology Clubs Associated met in Cleveland in April, the Alumni Association, under the direction of Charles A. Stone, Merton L. Emerson, James P. Munroe and R. B. Price, and under the immediate direction of I. W. Litchfield, had already collected and indexed the names of five thousand alumni, under twenty-five main heads and two hundred and fifty subheads which covered, except for very special work, the technical and industrial field of the country. Mr. Litchfield made frequent trips to Washington where he interviewed heads of departments and was able to place a large number of men urgently in demand for special technical work. The index remained in Cambridge where it was constantly used until the latter part of July when, Mr. Litchfield having gone permanently to Washington and all the work of the various committees being centralized there, it was decided to transfer the index itself to Washington in charge of Mr. A. D. Smith. This was done and the index is being used extensively at the national headquarters of the alumni.

Meanwhile the Associated Clubs in Cleveland voted to open a bureau in Washington to coöperate and furnish information on the spot, to act as a clearing house for all technical men who wished to be of service during the war. Van Rensselaer Lansingh, '98, was elected chairman in charge, and Maurice Scharff, '09, executive secretary. The office was established in the Union Trust Building. The fact that two alumni were in positions of special responsibility with the government, Dr. George E. Hale, '90, chairman of the National Research Council, and Dr. Hollis Godfrey, '98, one of the seven advisory commissioners on the Council of National Defense, would aid the bureau greatly, it was thought, in its work.

The plan was to issue a weekly bulletin to be sent to the secretaries of Technology clubs the country over and to all individuals interested, furnishing the latest information on all the opportunities for government service. Furthermore the fifty or more local



TREES IN THE GREAT COURT!

clubs were urged at the Cleveland meeting to look after their own districts, to look up and run down men whose expert services were needed, to study local problems in manufacture and food production, to organize conflicting local organizations under one head and to act as feeders to the main committees in Cambridge and Washington. These local bodies raised their own funds and showed good results as will be seen in their reports.

The Intercollegiate Bureau in charge of Dean McClellan of the Wharton School, University of Pennsylvania, had already begun work in the line of coördinating the colleges of America, and Mr. Litchfield persuaded it to install a department for technical schools and to issue a uniform questionnaire, along the lines of the Institute's, to all college alumni.

The first bulletin of the Washington Office was issued May 17, and deserves reproduction, to show the method by which the Washington committee hoped to get its results.

"To Secretaries and Members of Preparedness Committees:

"The problem of the conservation of personnel in industrial plants and technical organizations which are now doing, or which may later be called on to do, work essential to the conduct of the war, is one of the most important now before the country. The Conscription Bill will be a great help toward its solution, but it will not prevent the loss of engineers, draftsmen, and skilled mechanics not subject to draft, or registered and not drafted, by volunteering in engineer regiments, national guard units, and the regular army.

"The government fully realizes the seriousness of this problem, and will no doubt succeed in solving it. Technology Clubs Associated can be of the greatest assistance by collecting information regarding interference with production already experienced, and suggestions regarding possible remedies or preventives. The St. Louis club has already sent in a number of helpful letters along these lines from industrial concerns in its district.

"You are requested to get in touch at once with Technology men engaged in industrial work in your section, and if possible with other technical men through local engineering societies, etc., and to ask them for letters stating whether they have yet been affected by the loss of men by volunteer enlistment, relating typical experiences, stating what effect such experiences are having or may have on their production, expressing their view as to whether some

action is desirable to remove this difficulty, and making helpful suggestions as to how this situation may be best handled. As soon as you have collected these letters, and in any case in not more than ten days, please forward all of the information you have secured, and we will see that it is placed where it will be most useful.

"Please call the attention of your members to the large number of technical positions which are being filled, and will be filled in the various departments of the government by the United States Civil Service Commission. Many of these opportunities are being called to the attention of individuals by Technology Mobilization Committee, but it is likely that many of your members will not be so advised, and who, for various reasons, are not available for active military service, will be interested in these opportunities for serving the government during the course of the war. Much of the formality ordinarily connected with Civil Service appointments is being dropped at this time, and full information regarding vacancies may be obtained from the Civil Service Commission at Washington, or from the Civil Service Boards, located in the government buildings of the principal cities in the country. Examples of the technical positions now open are shown on the enclosed sheets.

MAURICE R. SCHARFF,
Executive Secretary."

The committee sent out each week these bulletins, commenting on national issues as they arose, such as the conscription of technical men, the question of securing technical men of the highest type for service on exemption boards to safeguard the interests of industry against indiscriminate conscription, and the like. The bulletins also gave weekly lists of positions open under civil service, and news of Tech men who had entered the government service.

The question of conscription of men useful industrially was dealt with as follows:

"*Threatened Disorganization of Industry.*—We are still strongly impressed with the danger of disorganization of industry through

"1. Enlistment of industrial employees in volunteer military organizations without regard to their industrial usefulness.

"2. Indiscriminate conscription.

"The principle of selective conscription will avoid these dangers

if it can be put into effect in the attitude of the War Department toward unintelligent enlistment, and in the regulations to be prescribed by the President governing exemption from draft. *You* can bring this about if you will help us put this matter up clearly to the President.

"We repeat our request in Bulletin No. 1, and ask you to

Do It Now!

"1. Telephone Tech men in your section, and ask them for letters stating:

- "a. Whether they have been affected by volunteer enlistment.
- "b. What effect such experiences are having, or may have, on their production.
- "c. What effect indiscriminate conscription may have.
- "d. What they recommend as the best method of overcoming these difficulties.

"2. Get in touch with other technical men directly or through other local alumni or engineering organizations.

"3. Have resolutions adopted by such technical organizations as happen to meet at this time, expressing an opinion as to the best policy to be adopted regarding this matter.

"4. Advise this office promptly what you are doing along this line.

"5. Forward all letters, resolutions, etc., secured, to this office not later than June 15.

"This is a matter of really vital importance, and our influence can be made to count if *you* will help."

The question of keeping a full and exact record of Tech men and their service during the war was soon taken up and steps were taken to ensure it. The first notice came from the Washington *Bulletin* on June 23, as follows:

"It is intended to keep so far as possible a record of the services rendered to the country in the present emergency by Technology men. The names of the members of the first Technology Ambulance will stand at the head of the record, which we all know will be one of efficient and devoted patriotism. Every Technology man who joins any branch of the governmental service connected with the war, whether military, naval or technical, is urged to add his name to the record by notifying the Committee on Mobilization of

Technology's Resources, stating his rank, branch of service, organization, and (except in case of Army and Navy) character of work.'

In the same issue of the *Bulletin* it was announced that Mr. Lansingh was giving up his work in Washington as manager of the office and assistant on the staff of Doctor Godfrey to take charge of the Paris Headquarters for Technology men, which is described in another article. This left Mr. Scharff in charge together with Mr. Litchfield, now permanently in Washington, and later, James P. Munroe who went to Washington in July to assist in the work, incidental to his labors on the Commission for Vocational Education to which he has been appointed by the President.

This issue of June 23 was the last bulletin sent out by the Washington Office. A great change in the method of securing alumni publicity for the alumni was introduced. For some time it had been felt that the bulletin was inadequate, as it could distribute only specialized information to the club secretaries. A great many Technology men, it was feared, were not being reached at all. A better medium was desired. This was found in the *The Tech*, the undergraduate newspaper, which as soon as school closed had decided to continue publishing twice a week during the summer for the undergraduates in Cambridge and at the various camps. Its first numbers were so successful, newsy, informative and above all immediate, that it was decided to see whether *The Tech* could not do also the work of the Washington *Bulletin*. An arrangement was made, the paper was enlarged, its staff was strengthened, particularly on the business end, and beginning with the issue of July 3, the War-time *Tech* started on a campaign to furnish all news pertaining to Technology men past and present during the period of the war. A wide campaign for subscriptions was begun and it is to be hoped that every Tech alumnus will take the paper regularly and so keep in immediate touch with what the Institute is doing through its officers, alumni and undergraduates. It is backed by the Alumni Association, the Associated Clubs, the Mobilization Committee and the Associated Committee of Women.

On July 17, Mr. Scharff was sent to Anniston, Alabama, to direct the construction of a National Guard Encampment. During his absence Mr. Litchfield had charge of the office in Washington. But Mr. Litchfield himself had become interested in the work of the National Service Reserve of the Labor Department, looking to the establishment of what is called the Senior Reserve,

of older men who are of technical and industrial importance, so it was decided that some change in organization was necessary.

Before the mobilization work was finally moved to Washington, however, a report was issued, of which we quote a few paragraphs, showing the extent of the work done by the committee before it merged with the others.

"As you know, a blank form for registration of our men was designed and sent out, from which about 6,000 replies have been received. These have been classified, and already nearly 1,000 names of what seem to us suitable men have been furnished to the various departments at Washington. Our blank has served as a model for a number of other organizations, and Mr. Litchfield has been called in consultation on this work by sundry agencies in Washington and New York. We have been informed by various government officials that the plan of the Institute in this direction is better systematized than is that of any other body.

"Mr. Litchfield is spending the greater part of his time in Washington, coöperating with many of the departments in securing not only Institute men, but others for special jobs there. Unless one is on the spot it is difficult to realize the number of ways in which a 'free lance' in close touch with Technology's resources can be of direct service to the federal departments and to the Council of National Defense.

"Litchfield is also assisting several of the departments in the work of registration and classification; and, just at present, is working out with the Department of Labor a country-wide plan for a 'Senior Reserve' which shall safeguard as far as possible the industries from having their important men taken away by the draft for positions that might be equally well filled by unskilled workers.

"Meanwhile your committee has secured authorization from the Alumni Council to establish associated committees of women to coöperate: (1) in keeping in touch with all Technology men in the service of the government here and abroad; (2) in establishing local committees to render friendly service to wives, mothers and daughters of Technology men who are absent upon federal and state service; (3) in standing behind the center in France for Tech men; and (4) in helping in many other ways which will appear as the war progresses. The executive committee of women has been organized as follows: Mrs. Edward Cunningham (Chairman), Mrs. Edwin S. Webster, Mrs. Harry M. Goodwin,

Mrs. Frederick T. Lord, Miss Mabel K. Babcock, and Miss Evelyn Walker.

"A large honorary committee, with Mrs. Maclaurin as chairman, and a smaller advisory committee of the wives of prominent Institute men around Boston, are in process of organization. These committees of women are for the present to use the alumni office as their headquarters, and Mrs. Cunningham's committee, in coöperation with ours, has already arranged to establish in Paris, a center for Technology men. This will provide a direct medium of communication between Institute men at the front and their families, and through it will be worked out a system for keeping in constant touch with the boys and for performing for them those many little services which are beyond the scopes of governmental agencies. Van Rensselaer Lanssingh, '98, who has been doing volunteer work in Washington for the Council of National Defense, has been released, to take charge of this center, and is sailing for France this week. Effective steps are being taken to coöperate as far as possible with other colleges contemplating similar centers, so as to provide at Paris (and possibly also in London) an "American University Club" for all college men in service abroad.

"We have coöperated also with the Council of National Defense in mobilizing the vocational schools of the country for the important service of: (1) giving intensive training to minors to enable them to take the places of artisans called to service; (2) providing special training for partly trained mechanics and technicians, so as to meet the need for vast numbers of such men in the military, naval, air-craft, supply and medical services; and (3) giving intensive technical training for the inspection service, so that this service may not draw too heavily upon the already limited supply of experts in the army and in the factories. The President is so far convinced of this need as to have sent out a general letter urging the vocational schools to undertake this work, and plans for carrying out his wishes are actively under way.

The necessary change in organization was put through promptly. On Thursday, July 19, an important conference was held at the Washington office, a majority of each of the executive committees of the Mobilization Committee and the Technology Clubs Associated Committee being present. It was the unanimous opinion that the two committees be consolidated and that, so far as possible, the work be centered at Washington to which Technology men are

coming in ever increasing numbers. It appearing, moreover, that Litchfield is likely to be engrossed in the important work of the National Service Reserve, and that Munroe is to be located for the present in Washington, it was decided to make some change in officers. As a result, the following votes were unanimously passed:

WHEREAS, the work of these two committees has been from the beginning supplementary;

WHEREAS, both added strength and economy cannot but result from continuing the work in name as it has been conducted in fact, as a joint effort;

WHEREAS, some misunderstanding has arisen among Institute men because of the existence of two committees doing practically the same work; therefore

Voted; that the two committees named above be merged in a single organization to be known as the M. I. T. Committee for National Service.

Voted; that all the activities heretofore carried on by the two committees thus consolidated be assumed and continued by the new M. I. T. Committee for National Service.

Voted; that the Women's Auxiliary Committee of the Committee on the Mobilization of Technology's Resources and the Joint Committee on National Service (made up of members of the Faculty and of the undergraduate body) be invited to associate themselves, without any loss of identity, with this M. I. T. Committee for National Service.

Voted; that M. R. Scharff, '09, continue as executive secretary of the Executive Committee thus constituted, and that the chairman be empowered to secure a recent graduate to serve as assistant executive secretary.

The Massachusetts Institute of Technology Committee for National Service, therefore, at present coördinates all the activities of the alumni, and to it all graduates and former Tech men should apply for information or for service with the government. Washington is full of Tech men, ranging from graduates in places of highest responsibility to the young men at the American University training for commissions in the engineering service. The public may not know so much about its activities as it does of some of the other colleges, but our men are on the job and they are doing their work—as always—with the efficiency and the skill and the disinterestedness typical of the best type of Tech men.

THE JOINT COMMITTEE'S WORK

What professors and students can accomplish working together as equals. A valuable work in publicity

When war was declared and the undergraduates began naturally to tug at the leash, it was found that reiterated requests from Dr. Maclaurin and the first student committees appointed, urging undergraduates to be calm and sit tight and finish their training, rather than rush off to indiscriminate service which anyone might do—these requests were not having the effect they should have. There seemed little actual information available and the students naturally tended to take things into their own hands. To head off this scattering activity, to direct the men's minds into the right channels by giving them authoritative information, President Maclaurin decided to appoint a joint committee of Faculty and students, working as equals, to take care of the activities of the student body and to issue regularly in the *Tech* bulletins which kept up to date on everything that was being done for the undergraduate body.

Professor Pearson of the English department has prepared for us a brief résumé of the work of the committee. From the first, Professor Pearson was most enthusiastic over the possibilities of the committee and over the chances for Tech men in service both here and abroad. He was largely instrumental, with a few chosen seniors, in keeping the bulletins up to the mark, and was also interested in the various activities of the Machias Camp, the War-time *Tech* and the Paris Technology Bureau and Hospice. At the time of going to press, the last week in July, he has just undertaken a 10,000 mile swing round the circle of the Technology clubs this side the Mississippi, taking to them first-hand news not only from the Institute but from the Washington Bureau which he first visited. It is expected that this missionary work will do much to coördinate the various local organizations with the main centers of activity. Professor Pearson's report follows.

"On June 30, President Maclaurin announced the appointments for the ensuing year for the Executive Committee of the Joint Committee on National Service. Three of the undergraduate members, E. P. Brooks, J. M. DeBell and L. L. McGrady, have

retired, by reason of graduation from the Institute. The committee for the year 1917-1918 stands as follows: R. A. Wilkins, 1918, chairman, Major E. T. Cole, W. Eastman, Jr., 1918, Professor Henry Fay, Professor E. F. Miller, Professor C. H. Peabody, Professor H. G. Pearson, W. P. Ryan, 1918, R. W. VanKirk, 1918.

"The Joint Committee on National Service was created soon after the beginning of the war for the purpose of collecting and disseminating reliable information for the student body with regard to military matters, and to give them advice concerning the perplexing situation in which members of the undergraduate body found themselves. The committee was the result of a plan originated by L. L. McGrady and E. P. Brooks, and was at once given recognition by Dr. Maclaurin. It consists of twenty-five members, with Dr. Maclaurin as chairman, chosen from the undergraduate body and from the Faculty. An executive committee of four Faculty members and four undergraduates was at once appointed, the chairman of this committee being John M. DeBell, president of the senior class.

"At the time when the committee came into existence there was great restlessness and uncertainty among the members of all the classes. The volunteer fever, the desire for expressing patriotism in immediate action, which was found in all colleges, was very active at Technology.

"The first duty of the Joint Committee was to reiterate the requests made to the student body by Dr. Maclaurin, and by the Preparedness Committee, not to be stampeded into hasty action. This appeal was directed particularly to the members of the lower classes. Speakers were obtained who addressed the sophomores and the juniors and urged them to continue their studies at the Institute, in order that they might be of use to their country as technically trained men on their graduation one or two years hence. At the same time it was desirable that members of the class about to graduate should be advised of the various opportunities for service which were immediately open to them. These tasks the Joint Committee undertook by means of bulletins which had the official sanction of Dr. Maclaurin's signature.

"Meanwhile, it was desirable to devise ways by which members of the sophomore and junior classes could anticipate their studies of next year by means of summer courses, and thus qualify for

enrolling in the military courses which the War Department was expected to recognize at the Institute. The result of much work along these lines is the present military camp for sophomores at East Machias, Maine, called "Camp Cunningham," in recognition of the generous gift of Mrs. Edward Cunningham, which made the scheme possible, and the junior school at Cambridge. The success of these camps and the splendid spirit shown by the students justified the Institute authorities in believing that there will be few, if any, further withdrawals from the Institute from the men in the sophomore and junior classes. As for the freshman class, there is every reason to believe that its membership will be practically intact next fall. It is gratifying to know that its records for scholarship in June were higher than the records of any freshman class for many years.

"The Joint Committee for the summer and for the next school year has much important work before it. It plans to continue the issuing of bulletins; and the publication of *The Tech* twice a week during the summer will help in giving those bulletins much needed publicity. It proposes to keep a list of the military activities of all the members of the class of 1917, and of men who have been connected with the undergraduate body during the past year; it will continue to maintain its office in Room 3-203, and to answer all questions with regard to military matters. It stands ready to give its help in organizing the considerable increase in military work next fall which will go into effect as a result of the War Department's recent recognition of the Institute as a training school for reserve officers.

"In the short space of two months the joint committee has made a place for itself in Institute life. Its success is based on a recognition of the fact that in time of stress all those devoted to the Institute desire to work shoulder to shoulder. It has furnished a remarkable example of coöperation between students and Faculty. As a Technology activity it is a striking example of what Institute resourcefulness and energy can produce in the way of an effective working body."

PARTIAL LIST OF TECH MEN IN SERVICE

The first installment of an Institute roll of honor

The Washington Bureau is issuing from time to time a corrected list of Tech alumni and undergraduates enlisted in the national service under their respective branches. The lists will be made as complete as possible from the information furnished the Bureau but it is feared that unless Tech men do their share, in sending in their names, they will be incomplete. The names after being printed in *The Tech* will be published in pamphlet form as the *Technology Army and Navy Journal*. Corrections and additions to the lists should be sent to the Washington Bureau. The REVIEW is able to print only the first list, issued July 24 shortly before we go to press.

INFANTRY

H. A. Rapelye, '08, commissioned captain O. R. C. (infantry).

ORDNANCE

A. B. Lawrence, '16, commissioned lieutenant.

A. L. Brown, '15, commissioned lieutenant O. R. C. (ordnance),
4 June, 1917.

Alfred W. B. Hall, '15, commissioned lieutenant O. R. C. (ordnance).

S. P. Houghton, '15, commissioned lieutenant O. R. C. (ordnance),
4 June, 1917.

Herbert S. Kimball, '91, commissioned captain O. R. C. (ordnance),
4 June, 1917.

N. M. Marsellius, '16, commissioned captain O. R. C. (ordnance),
4 June, 1917.

A. S. Morrison, '15, commissioned lieutenant O. R. C. (ordnance),
4 June, 1917.

P. G. Morrison, '16, commissioned lieutenant O. R. C. (ordnance),
4 June, 1917.

P. G. Morrison, '16, commissioned lieutenant O. R. C. (ordnance),
11 June, 1917.

G. R. Norton, '07, ordnance department U. S. A.

James L. Walsh, '07, major ordnance department U. S. A.

Course for machine gun instructors, Springfield armory:	
Leon R. Abbott, '15.	R. E. Naumburg, '16.
E. Barry, '16.	A. Page, '16.
H. P. Claussen, '16.	C. P. Putnam, '15.
R. A. Crosby, '16.	B. J. Root, '16.
H. P. Dunham, '17.	R. S. Rowlett, '16.
C. H. Durkee, '15.	H. Russell, '16.
Carlton W. Eddy, '15.	B. G. Sedridge, '16.
K. E. Engstrom, '15.	H. Shepard, '16.
G. H. Gans, '16.	C. L. Smith, '15.
H. Gfroever, '16.	G. S. Stevens, '14.
P. D. Harrower, '16.	G. S. Taylor, '13.
D. O. Hooper, '16.	W. S. Thomas, '15.
W. R. McEwen, '15.	S. S. True, '14.
H. T. Miller, '17.	H. White, '16.

SIGNAL CORPS

- Philip L. Caldwell, '11, commissioned lieutenant O. R. C. (signal), aviation section.
- Kenneth Grant, '02, commissioned captain O. R. C. (engineers) office, chief signal officer, construction department.
- Frank B. Jewett, '03, major O. R. C. (signal), duty at works of Western Electric Co.
- R. L. Jones, '09, captain O. R. C. (signal), duty at works of Western Electric Co.
- Henry Souther, '87, major O. R. C. (signal) 1917, appointed chief of the Boston division.
- George R. Wadsworth, '98, commissioned captain O. R. C. (signal).

NAVY

- Bureau of Yards and Docks—
- Howard B. Luther, '08, junior inspector of construction.

MARINE CORPS

- John W. Wadleigh, '82, major U. S. M. C.
- Henry J. Horn, '88, Red Cross, commissioned to Russia.
- Prof. George C. Whipple, Red Cross, commissioned to Russia.
- C.-E. A. Winslow, '98, Red Cross, commissioned to Russia.

MISCELLANEOUS

- William C. Dart, '91, member of local examination board.
- Bradley Dewey, '09, gas research, Washington.

William Green, '06, gas research, Washington.
 George Ellery Hale, '90, chairman National Research Council.
 Henry Howard, '89, director of recruiting, U. S. Shipping Board.
 Prof. W. K. Lewis, '05, gas research, Washington.
 George A. Richter, '13, gas research, Washington.
 Raymond B. Price, '94, National Council of Defense.

The American University is an advanced Plattsburg particularly for candidates for the Engineer Officers' Reserve. Out of the six companies at the "university" in Washington, fifty-seven are Institute men.

COMPANY 3

Name	Year	Active Duty	Not Active Duty
Bailey, F. W.	'96	First Lieutenant	
Bascom, E. D.	'15		Candidate
Bowler, E. W.	'14		Second Lieutenant
Bresth, Alexander	'16		Candidate
Brooks, E. P.	'17		Candidate
Brown, H. W.	'15		Candidate
Clark, W. A.	'05		Candidate
Cohen, Samson K.	'10	First Lieutenant	
Deacon, E. F.	'19		Candidate
Devlin, J. J.	'11		First Lieutenant
Dickinson, Thorn	'14		Candidate
Foley, John F.	'13		Candidate
French, H. W.	'08		First Lieutenant
Gage, E. H.	'13		Candidate
Gay, G. E.	Spec.		Candidate
Gibbs, D. W.	'10		Candidate
Harper, J. H.	'17		Candidate
Hefler, R. E.	'15		Candidate
Keith, G. M.	'12		Second Lieutenant
Kelly, E. F.	'07		Candidate
Kingsbury, F. H.	'12		First Lieutenant
Lane, K. M.	'17		Candidate
Lawton, R. M.	'03		Candidate
Lord, H. S.	'11	First Lieutenant	
Macomber, Alexander W.	'07	Captain	
Merrill, S. W.	'14		Candidate

Moore, L. E.	'02	Captain	
Pease, M. H.	'07		Candidate
Rhodes, W. S.	'95	First Lieutenant	
Root, John A.	'14		Candidate
Ryan, T. W., Jr.	'17		Candidate
Senter, E. G., Jr.	'17		Candidate
Shaw, A. L.	'09	Captain	
Smith, M. J.	'14		Second Lieutenant
Sutherland, C. H.	'11		First Lieutenant
Ware, E. A.	'09		Candidate
Weaver, E. J.	'15		Candidate
Wilkins, C. H.	'14		Candidate
Wood, J. E.	'14		Second Lieutenant
Wyman, L. E.	'17		Candidate

COMPANY 4

Name	Year	Active Duty	Not Active Duty
Ahern, Frank L.	'14		Candidate
Clafin, William B.	'95		Candidate
King, Howard L.	'15		Candidate
Thomas, Ralph L.	'13	First Lieutenant	
Walters, Lee D.	'13		Candidate
Wiggin, Thomas H.	'95	Captain	
Wood, Leonard P.	'01	Captain	

COMPANY 5

Name	Year	Active Duty	Not Active Duty
Ackerman, A. S.	'03	First Lieutenant	
Churchill, P. M.	'95	Captain	
Clarke, Thomas C.	'93	Captain	
Millis, Ralph	'16	Second Lieutenant	

COMPANY 6

Name	Year	Active Duty	Not Active Duty
Hobson, G. F.	'06	Captain	
Kane, I. P.	'10	Captain	
Lewis, R. W.	'11		First Lieutenant
McRae, H. C.	'07		First Lieutenant
Powell, P. R.	'08		First Lieutenant
Reimer, A. A.	'00	Captain	
Yereance, A. W.	'12	Second Lieutenant	



PLATTSBURG TECHNOLOGY CLUB, JUNE 1917

Standing (from left to right) (1) J. H. Harper '17, (2) C. H. Sutherland '10, (3) S. K. Cohen '10, (4) E. H. Gage '13, (5) D. W. Gibbs '10, (8) R. E. Hefler '15, (9) E. D. Bascom '15, (12) H. W. Brown '15, (14) Thorn Dickinson '14, (15) C. H. Wilkins '14, (16) G. M. Keith '12, (17) F. L. Ahearn '14, (19) A. W. Macomber '07, (20) L. E. Moore '02, (22) A. L. Shaw '09, (23) W. S. Rhodes '95, (24) Professor F. G. Perry '09, (25) W. A. Clark '05, (26) D. B. Baker '15, (27) T. W. Ryan, Jr. '17, (28) Clark Robinson '17, (29) E. F. Deacon '19, (30) E. A. Ware '09, (31) E. G. Senter '17.
Kneeling (from left to right) (2) H. E. Lobdell '17, (4) J. A. Root '04, (6) R. H. Ranger '11, (8) P. E. Hinkley '05, (9) A. Brestrh '16, (11) F. H. Cunningham '92, (12) E. P. Brooks '17, (13) A. E. Page '19, (14) J. T. Leonard '18.
Sitting (from left to right) (2) E. L. Homann '12, (4) S. C. Dunning '17, (6) J. G. Stowbridge '19, (7) J. W. Gibson '19, (8) C. W. Lawrence '16, (11) A. E. Moody '17, (12) M. J. Smith '14, (13) E. F. Kelly '07.

TECHNOLOGY IN FRANCE

**A Paris home for the Tech ambulance unit and the other men
who will follow them abroad**

On June 22 twenty Technology undergraduates were given a farewell reception by the New York club to celebrate their sailing on the "Rochambeau" for ambulance work in France. This night was the beginning of what will prove to be a large and important work by the Institute in France, for not only will more men join the ambulance, but undoubtedly a large number of Tech men will see active service of other kinds there, and the New York meeting was eventful in being the commencement of a plan to give Tech men in Paris some of the comforts of home.

The send-off took the form of a banquet at the clubhouse of the Technology Club of New York at Gramercy Park. Among the distinguished guests and speakers were, Maurice R. Scharff, '09, head of the Washington Technology Bureau; James P. Munroe, '82 of the Institute Corporation; Van Rensselaer Lansing, '98, to take charge of the Technology Bureau at Paris; Professor Nettleton, head of the English Department at Sheffield School at Yale University; I. W. Litchfield, '85, field secretary of the Alumni Association; Professor H. G. Pearson, of the English department at the Institute; Louis Tracy, the novelist; and Mrs. Edward Cunningham, donor of the Institute military camp, "Camp Cunningham." Much light was thrown by the speakers on the plans which have been perfected for Technology's organization abroad, the work of the bureau at Washington, and kindred topics.

Mr. Frank C. Schmitz, '95, president of the Technology Club of New York, spoke briefly, announcing that the twenty-five men about to embark for France were to be admitted to membership in the club for the period of the war, and that their names would be posted as a roll of honor in the club.

The Tech men who sailed to enter the ambulance service are: H. B. Allen, '18, R. M. Allen, '16, D. G. Bradley, '18, F. N. Breed, '12, L. B. Cahill, '19, K. H. Day, ex-'17, D. Ely, '18, E. P. Greissmer, '20, I. G. Hall, '18, R. Henderson, E. V. Holden, '18, F. W. Holmes, N. Kohlhopf, F. L. Kline, '18, J. R. Milliken, '20, D. A.

Company F; E. W. V. Lucas, '16, private, Company D; H. G. Watkins, '12, master engineer; Major B. W. Guppy, '89, in charge First Battalion.

There are other Technology men aboard whose names are not known.

The regiment went to camp four weeks ago at Salem, N. H. It is composed almost exclusively of practical railroad men and is for the purpose of operating the French railways.

A little less than four weeks were spent in learning the infantry drill and field service regulations, first aid, and a few other subjects pertaining to hygiene. Yesterday the regiment entrained for New York and came aboard this afternoon and expects to sail shortly.

Tech Represented

At the recent twenty-fifth annual meeting of the Society for the Promotion of Engineering Education, Dr. Hollis Godfrey, '98, a member of the Advisory Commission of the Council of National Defense, was a prominent speaker, and as vice-president of the society was largely instrumental in securing the participation of public officials in the program of the meeting. Among these were the Assistant Secretary of War, President Mackenzie of Dalhousie University, Director Stratton of the Bureau of Standards, General Black, chief of engineers, U. S. Army, and others.

One session was devoted to the placing of engineering graduates in the government service, with discussion led by Mr. I. W. Litchfield, '85.

There were sixteen or more Tech men present from different parts of the country, including Professor F. H. Newell of the University of Illinois, Dean A. A. Potter of the Kansas Agricultural College, Professor G. F. Swain, Director A. L. Williston of the Wentworth Institute, Director W. B. Russell of the Franklin Union, Dean W. E. Mott and Dean F. L. Bishop of Pittsburgh, and others.

TECHNOLOGY WOMEN DO THEIR BIT

The following resolutions were unanimously adopted at the meeting of the Massachusetts Institute of Technology's Women's Association, held at the Institute on Friday, April 27.

Be it Resolved, that the Massachusetts Institute of Technology Women's Association pledge its allegiance to the federal and state governments in the present crisis, and tender the services of its members in any direction in which they may be needed.

Be it Resolved, that the Massachusetts Institute of Technology Women's Association express its appreciation of the work of the able and indefatigable Alumni Committee on Mobilization of Technology's Resources, and pledge its loyal support and co-operation in those efforts in any direction in which its members may be fitted to be of service.

The following motions were also unanimously carried:

(1) That we accept the suggestion in Mr. Litchfield's letter that we as Technology women assume the organization of the friendly care of the families of Tech men who go into the army, navy, or government industrial service.

(2) That the president be empowered to appoint a committee of five members to prepare in connection with the Alumni Committee a supplementary mobilization sheet for Tech women.

MABEL KEYES BABCOCK, '08, *President.*

The following article by Miss Mabel Keyes Babcock, '08, president of the Technology Women's Association, gives the best information concerning the important work which is being done not only by Tech alumnae, but by the Technology matrons and that larger group, the Friends of Technology, which is being founded to aid in the work of providing for the men in Paris and at the front.

The Technology women who are signing up the supplementary mobilization card issued by the Women's Association are showing a fine Technology spirit.

This card is designed to bring out two relations: that of the individual to national service, and the type of assistance to be offered to Mrs. Cunningham's Committee of Friends of Technology, which is behind the Technology Center in France.

The inquiry is short, but seems to be clear and sufficient to bring out:

1. Training and experience.
2. Ability to work for emergency service.
3. Present war service.
4. Type of assistance to be offered to the women's special work for Technology.

Much important work during this war and after will be preëminently women's work. In it Technology women will lead and are leading all over the country. By Technology women we mean every woman who ever attended the Institute, whether for a short time or a long time, a regular or special student, for everyone gained something of that we call Technology spirit, the respect for thoroughness, accuracy and honest accomplishment.

Now is the time to bear witness to that spirit. We cannot all lead, most of us must follow, but all can help the committee gather its resources quickly by sending in the registration card promptly. Whatever your ability, whatever your condition, no matter how much you are doing elsewhere, we need your coöperation, and Technology will appreciate your devotion as well as that of her men. There must be no slackers among the women, and the returning cards give assurance there will be none.

From Chicago the private secretary to the Committee on Laws, Chicago office of the National Board of Fire Underwriters, writes: "I'll do willingly anything I can do. We have a spare room in our home and the latch string will always be out to any woman with Technology affiliations or members of a family of any Institute man." The vice-chairman of the Hudson Board of Red Cross, secretary and treasurer of Red Cross War Fund Campaign Committee of Taunton, writes: "I am willing to do anything I can for Technology men in service. It hardly seems practical for me to specify what time I could give, especially as I am fully occupied with my dates in my own town. However, if I can serve my country better by giving up work in my own town, and if it were necessary, I can and will live in Boston and give all my time to it."

Another writes: "I am holding a position that is held by men in every other branch of our company in this country. I have held this position for nearly fifteen years, and am thoroughly conversant with every detail of the department work. I know practically

nothing about any other line of work. One of my clerks has already enlisted. There are two others and one of them is subject to draft. With the uncertainties which are before us, I feel that my duty lies in staying where I can be of service to my company, for there must be somebody who can look after the truck tires, so that deliveries can be made without delays, for in times of storm, hold-up means much to those concerned. In your circular letter you mentioned 'preparation of supplies.' If I can help in this work or in any of the work of which you speak, after hours, I shall be very glad to do it."

Another: "Am not an expert in anything. I have an ordinarily good brain and possibly a pair of more than ordinarily good hands. Have made surgical dressings for two years at the French Volunteer Rooms. Will assist the Technology Committee in any way I can be useful."

The committee's announcements of plans as they mature will be made through *The Tech*. Begin your service by subscribing to it, and get direct from headquarters information, inspiration, opportunity and instruction.

The following is the text of the letter sent to the Technology women for mobilizing them into war service:

"*Dear Fellow Alumna:*

"The Alumni Association of Technology is establishing a Technology Center in France, and an Auxiliary Association of women interested in the Institute under a central committee in Boston. Mrs. Edward Cunningham, chairman, to especially plan for the welfare of Institute men in service.

"Every woman who has ever had Technology affiliations will be under obligation to do her part. The lines of work will include correspondence and visiting with families of men in service, and possibly advice and friendly counsel in time of emergency. There will be preparation of supplies, reading and recreation matter and such other work as may be deemed advisable as the plan develops.

"Please signify your hearty coöperation with this movement by answering the questions on enclosed card affirmatively. Your prompt attention is requested to the entire registration card for the reason that the government is now applying to Technology for recommendations of trained women for special positions and we are very desirous that our national service shall be that of placing our women where their special training shall become most effective.

MABEL KEYES BABCOCK, '08, *President.*"

Besides Miss Babcock's organization, Mrs. Cunningham and others closely interested in the work in Paris and at the front make the following appeal for their work:

To Technology men and women and all interested in the work of Technology in the war: The Friends of Technology, an organization formed to provide for the men at the front and coöperate with wives and mothers left behind, urge you to join its membership. The Central Committee comprises Mrs. Edward Cunningham, chairman; Miss Mabel K. Babcock, Mrs. Harry M. Goodwin, Mrs. Frederick T. Lord, Miss Evelyn Walker, and Mrs. Edwin S. Webster.

Watch *The Tech* for an account of its undertakings, and send one dollar initiation fee for the duration of the war, to Mr. W. K. Curtis, Treasurer, 702 Sears Building, Boston. Generous donations have been made to the treasury, more must be secured. The work which can be done is limited only by the amount of support which it receives. Your personal coöperation as a friend and as a worker is desired. The membership is open to men and women, graduates or friends of graduates, in all parts of the world where Technology and its standards are known.

So interested did Mrs. Cunningham become in the possibilities of the Technology Center in Paris that during July and August she spent two afternoons a week at the Institute in Cambridge in active work with her committee. Mrs. Cunningham, widow of Edward Cunningham, '91, from the outbreak of the war has shown a great and useful interest in the welfare of the Tech men who must help to fight that war. It was she who furnished the \$25,000 necessary for the use of the summer surveying camp at East Machias as a training camp in military engineering for sophomores, a project which the Joint Committee hit upon to prevent the men from the under classes from drifting away from the Institute during the summer and which was doubtful of success had it not been for Mrs. Cunningham's appreciation of its necessity. The camp was named Camp Cunningham in memory of her husband. Mrs. Cunningham was also one of those first interested in the idea of a Tech Hospice in Paris and was energetic in helping put the plan through to accomplishment. The ambulance unit went abroad generously provided with comforts and appliances for work supplied by her, and the men in Maine have also received frequent evidence of her thoughtfulness for their welfare. The men in the

aviation school at Cambridge, who had little chance for country air or recreation, were invited over week-ends to her summer home at Westwood and through her interest Mr. W. Cameron Forbes became interested in the Tech spirit and built a regulation military rifle range on his adjoining estate at Ellis, which the Tech Junior Battalion was invited to use for practice, during week-end camping trips on his farm.

Tech Men For Red Cross Work in Russia

Dr. George C. Whipple, professor of sanitary engineering at the Institute, C.-E. A. Winslow, '98, professor at Yale, and Henry J. Horn, '88, will accompany a special Red Cross Commission to be sent to Russia as the first step of the plan of relief organization "to do something immediately to hearten" that country, it was announced in a statement issued in July by Henry P. Davidson, chairman of the Red Cross war council.

The commission, which is to make an extensive study of the needs of the Russian nation, will be composed of a group of eminent men from all over the United States and will carry with it a quantity of medical supplies and surgical instruments for distribution to the hospitals, institutions, and Red Cross organizations in Russia. The purpose of the commission will be to ascertain along the broadest possible lines in what manner the Red Cross can extend most effective relief work to the wounded, and what can be done to help the needy and suffering civilian population.

"In coöperation with the American railroad commission already in Russia," an announcement sent out today from the Red Cross headquarters said, "the Red Cross commission will study the problem of transportation, especially with reference to making sure that shipments of relief supplies may reach destinations without delay. For this special work the commission has as one of its members Henry J. Horn, formerly vice-president of the New Haven railroad. In addition to the foregoing, the members of the commission are J. W. Andrews, Thomas Thatcher and Dr. Orrin Weightman.

"The determination of how American relief on a large scale can best be administered in Russia will not be made by the Red Cross war council until after preliminary investigation by this special commission."

A NEW JOB FOR LITCHFIELD

As a result of the efforts of the Technology Alumni Association's plan of mobilizing technical men for civilian war service, the Department of Labor has announced that it has inaugurated a plan for assembling adult male volunteers for service in employment of every kind, public and private, which are necessary to the effective conduct of the war. Those who are willing to engage in such service, whether in a voluntary or wage-earning capacity, are asked to enroll as members of the United States Public Service Reserve. Detailed information as to the qualifications of each member will be obtained, studied and recorded. Arrangements have been made to get prompt information of opportunities for service. Available members will be put in touch with governmental departments and other employers who need men for work of value to the nation.

I. W. Litchfield, '85, field secretary of the Alumni Association, who was formerly engaged in the work of cataloguing the resources of the Technology alumni, has been appointed one of the five directors in charge of the technical and engineering division of the United States Public Service Reserve Board.

A certificate of enrollment and an appropriate badge or button will be given each member. The application form of the reserve states:

"I hereby apply for membership in the United States Public Service Reserve, United States Department of Labor, and request registration in its records of the accompanying description of my training, experience, aptitudes and capacity for service. I further request the United States Public Service Reserve, whenever it learns of a need, in public or private employment, for service in the national interest of a man of my qualifications, to notify me with particulars, including duties and compensation, and thereby afford me an opportunity to assist under the auspices of the reserve. I make this application because I desire a practical opportunity in this war emergency to contribute personal service by doing work that will aid the general welfare."

The success of the Department of Labor in creating the Boys' Working Reserve has led it to organize the United States Public

Service Reserve in order that the many citizens who are eager to give their services to the nation may be brought in touch with the evergrowing demand for men.

Within the last few weeks thousands of applications for advice and direction have been received in Washington from persons who desire to serve the country to the best of their ability, regardless of sacrifice. They come from teachers, students and others who would volunteer for their vacations; from scientific and technical men, who would devote their special abilities to the public service, or to private service for public benefit; from mechanics, laborers, lawyers, physicians, business men, clergymen and others. The need for such service is growing rapidly. As the country progresses in the prosecution of the war, more and more labor of all kinds, from the unskilled to the most highly trained, must be made available in order to get the necessary men with the least disturbance of existing industries, all sources not now profitably utilized must be availed of. In addition to those who are already on file, there are countless men who might be of value in essential occupations who are either not now employed or who are engaged in pursuits which might be laid aside temporarily, and others whose services during vacation might be used.

Various plans for mobilizing such adult service, some like the boys' reserve, purely civil and voluntary, and others, semi-military and even compulsory in form, have been urged upon Congress and the Council of National Defense. In the absence of any official bureau, many private organizations have been assisting in dealing with the question of personnel. In the nature of things, none of these organizations can fully meet the need for an employment service capable of advising as to the best means of national service, having a national viewpoint and able to give appropriate recognition to those who have performed service of national value.

The Public Service Reserve will furnish such an authorized national organization. It will supplement the regular employment service of the Department of Labor, which is now placing about 20,000 men a month, by supplying a reservoir of available men of all degrees of skill and attainment who are ready and able to meet emergencies as they arise.

DEATH OF PRESIDENT CRAFTS

The article following does not pretend to be anything more than the briefest sketch of the professional life of James Mason Crafts, former professor of chemistry at the Institute and for two years its President, who died June 20, 1917.

The fact that his death occurred so late in the college year has made it very difficult for the present editor to secure any adequate articles, either on the scientific work or the personal life of our dead President, written by his contemporaries who knew him best.

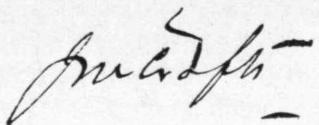
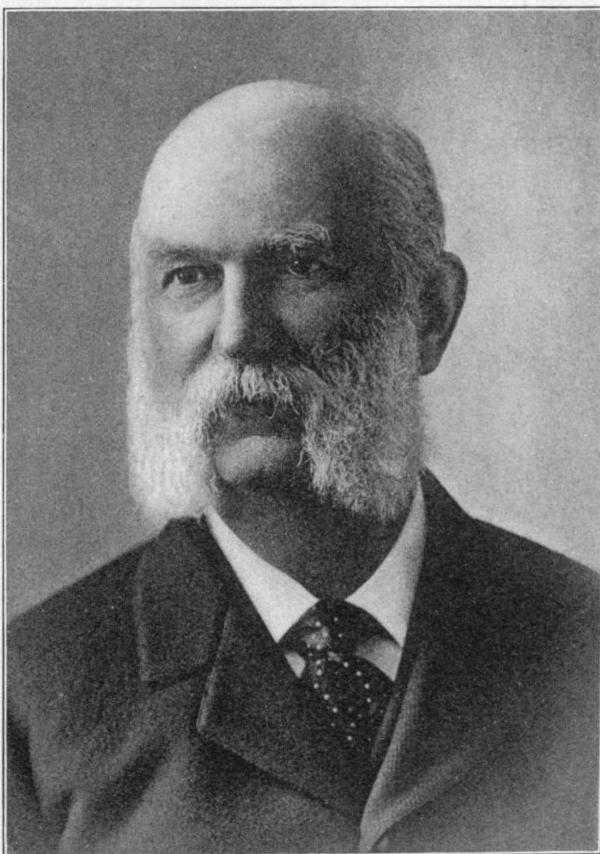
THE REVIEW hopes in November, however, to publish adequate memorials. The following sketch is from the *Transcript*:

"James Mason Crafts, long distinguished in the world of science, whose home was at 19 Commonwealth avenue, died July 20, suddenly and quietly, at his summer estate at Ridgefield, Conn., where he went about a fortnight ago. Professor Crafts, who was seventy-eight years old, had been affected by a heart trouble for some time and about two months ago suffered a serious attack, from which he apparently had recovered, making possible his departure from town for Connecticut. A message by telegraph sent here to his son-in-law, Russell Sturgis Codman, announced his sudden death this morning.

"James Mason Crafts, who long had been a leading figure in the field of chemistry, was born in Boston on March 8, 1839, the son of R. A. and Marian (Mason) Crafts. His father, R. A. Crafts, was a wealthy Boston merchant and his mother was a daughter of Jeremiah Mason, a well-known lawyer, who was the opposing counsel to Daniel Webster in many cases.

"On graduating at the Lawrence Scientific School at Harvard, in 1858, as a bachelor of science, Mr. Crafts spent two years in Germany, studying chemistry at Freiberg, in Sachsen and in Heidelberg. In 1861 he went to Paris and passed four years in study in the school of medicine connected with the University of Paris. In 1865 he finished his student life in France and returned to this country.

"Early in his long career in his chosen profession Professor Crafts examined mines in Mexico. In 1867, at the age of twenty-eight years, he was made professor of chemistry in Cornell College, and

A handwritten signature in cursive script, appearing to read "James Mason Crafts". The signature is written in black ink on a white background, with a horizontal line through the end of the last name.

JAMES MASON CRAFTS
1839-1917
President of the Institute
1898-1900

two years later he was called to the Massachusetts Institute of Technology to take the place left vacant by the death of the head of the chemical department, Professor Storer. After two years in the Institute, Professor Crafts was compelled by poor health to go abroad, and resigned his professorship. From 1871 to 1892 he divided his work between the laboratories of this country and France, laboring most of the time at the Sorbonne.

"In 1892 he again returned to this country and began independent investigations in the laboratory of the Institute of Technology. He was elected a member of the Corporation soon after his return. In the same year he was offered the position of professor of organic chemistry, which he accepted and retained until 1897. The next year, 1898, he was made President of Technology, continuing as such until 1900. Since that time he had been active in research work conducted in Boston.

"Harvard conferred the degree of doctor of laws upon Professor Crafts, in 1898. He gained other distinctive recognition, including the Rumford medal, conferred in England and considered a rare honor among scientists. Decorations and medals won in France by Professor Crafts included his election as a Chevalier of the Legion of Honor, from the French government, and his winning of the Jecker prize at the Paris Academy of Sciences.

"He belonged to numerous scientific and other organizations, among them the American Academy of Arts and Sciences, of which he was a Fellow; and he was a member of the American Association for the Advancement of Science, National Academy of Sciences, American Chemical Society, the Washington Academy of Sciences, the British Association for the Advancement of Science and he was an honorary member of the Royal Institute of Great Britain.

"As a writer of note, Professor Crafts contributed to the field of science 'Qualitative Chemical Analysis,' 'Researches Upon Silicic Compounds,' 'Arsenic Ethers: a Method of Synthesis by Means of Chloride of Aluminum,' 'Studies in Thermometry,' 'Catalysis in Concentrated Solutions' and 'Thermometry.' He was a member of the Somerset Club, the Country Club and University Club, Boston, as well as that in New York.

"On June 13, 1868, Professor Crafts married, in New York, Miss Clemence Haggerty of that city. His wife died in the winter of 1912 and he is survived by four daughters who are: Mrs. Russell Sturgis Codman of Marlboro street, who formerly was Miss Anna

K. Crafts; Mrs. Gordon Knox Bell of New York, who was before her marriage Miss Marian M. Crafts, and the Misses Elisabeth S. and Clemence Crafts, who reside at the family home in Commonwealth avenue and at Ridgefield, Conn., in the summer season. The estate there is known as 'Griffin Croft.' "

Institute Men in Caliban

Technology and Harvard divided honors between them in the recent Boston production of Percy Mackaye's gigantic Community Masque, Caliban, in the Harvard Stadium during July. Apart from the director, an Englishman, the Cambridge schools ran the show.

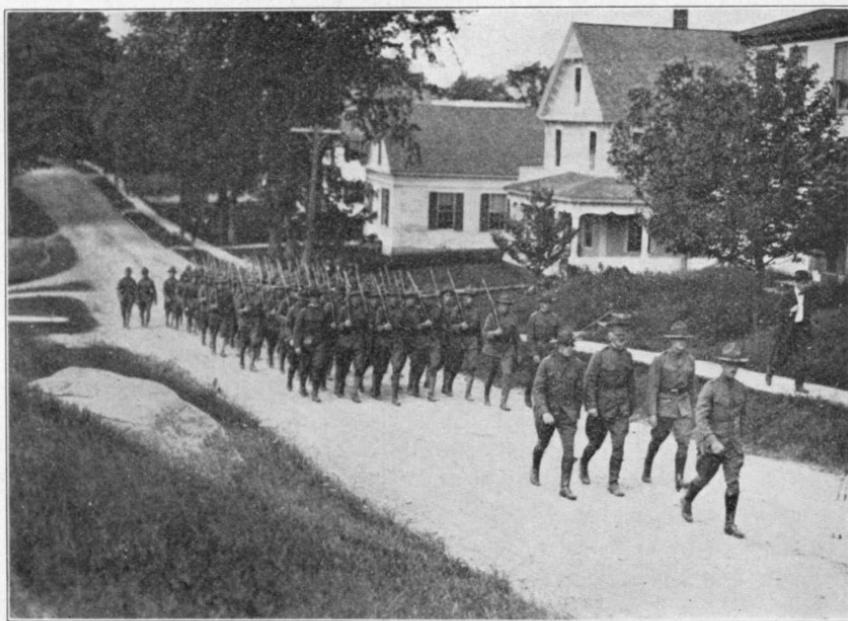
The gigantic task of getting the masque organized in Boston, of getting the committees together to underwrite the project and, in fact, of launching the movement was assumed largely by I. W. Litchfield, '85, who labored at it indefatigably for two months till the pressure of Technology mobilization work compelled him to relinquish it.

Ralph Adams Cram of the department of architecture, creator of last June's pageant, was chairman of the large Boston committee. T. D'Arcy Brophy, '16, designed the complicated stage setting, a vast out-of-door affair on three levels with a stage for inner scenes, and was besides administrative director of the whole enterprise since its inception early in the winter. He was assisted by Cy Guething and Mark Lemmon, '16.

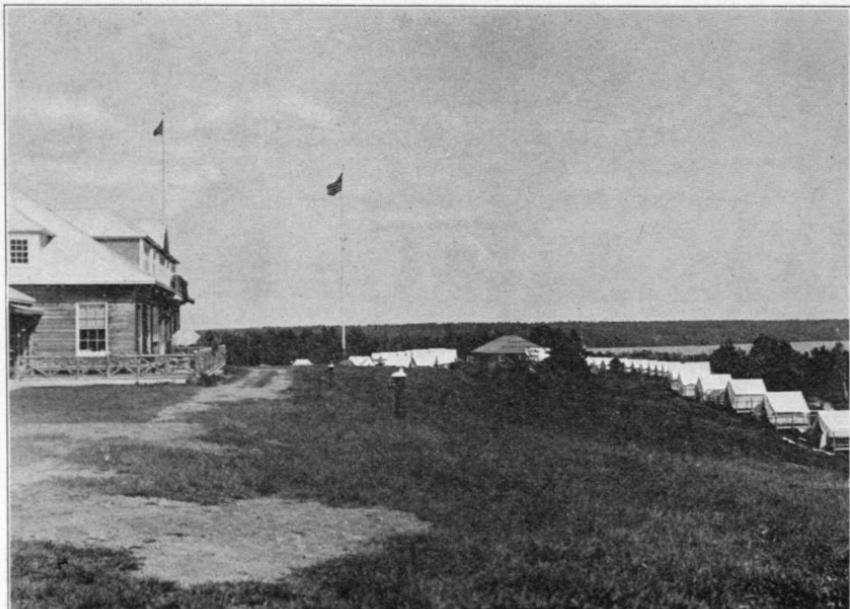
The steam curtain which was effective in presenting the Shakesperian scenes was designed and installed by Professor Miller, '86, and the acoustics, the most successful ever known in the Stadium, were taken care of by Clifford M. Swan, '99, who used several new devices to make the voices carry clearly across the bowl of the Stadium.

The music, without which the author said the masque would be nothing, was written by Arthur Farwell, '93, editor of *Musical America*. Virginia Tanner, ballet mistress of the Tech Show, directed the dances, accompanied as usual by Paul Gardner, '18, the well-known Institute Mordkin, and several other Tech Show stars.

Harvard furnished the author, the stage manager, the designer of costumes and scenery, the lighting director and a leading actor. All in all, it was an exhibition of home talent.



SOMEWHERE IN EAST MACHIAS



CAMP CUNNINGHAM

UNDERGRADUATES' SUMMER TRAINING

Sophomores and Juniors in practical out-door work learn to be soldiers

While the buildings in Cambridge were teeming this summer with students taking special courses made necessary by the declaration of war, the summer engineering camp at East Machias, Me., was also busier than in former years. Three groups of students were assembled there pursuing four special courses intended to satisfy needs in warfare that can be supplied by technically trained men. Work at the camp was in addition to these studies.

Twenty years ago Technology realized that the place to teach surveying is in the open air where the surveyor must do his future work, and established, therefore, a regular summer camp affording actual surveying work, each year in a different place. With the growth of the student body the problem of a different site each year became a serious one, so that thanks to donors who have withheld their names, there was set up on Gardner Lake, East Machias, Me., a group of permanent buildings for administration and classroom use.

With an excellent plant at command and a large demand for military instruction, a committee of students took up consideration of a bigger, longer camp at which military instruction could be given in addition to technical training. The result has been, with the coöperation of the instructing staff, all members of which volunteered their services, the organization of a camp to last all summer long.

This camp was intended for sophomores outside the required courses, and of these there were somewhat over a hundred men registered. In addition there were men required by their options to attend camp. Thus the regular sophomore party in the civil engineering courses take studies at East Machias as part of their regular work; the sophomore volunteers engaged in military studies and exercises are also there; and the junior course, in which men will partly finish the studies of the senior year, devoting the time thus gained to military studies during the winter, will be carried on at the Institute.

The regular camp opened July 25 and closes September 14.

The sophomore camp came before this, opening June 18. Altogether there were twelve weeks of out-door, essentially military life.

The volunteer camp had a registration of one hundred; the usual number for the summer camp is somewhat more, so there were about 250 students plus a very considerable instructing staff.

The camp in general was under the management of George B. Russell, S. B., associate professor of hydraulic engineering, but the details of discipline were cared for by a student committee.

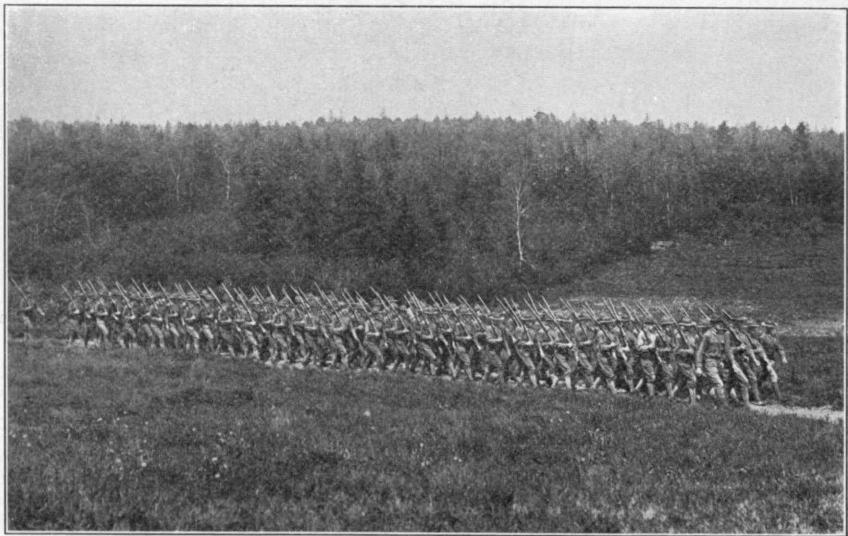
Even before the lower class had begun work at Camp Cunningham—named after Edward Cunningham, whose widow donated \$25,000 to establish it—the future seniors were hard at work in Cambridge in what was called the Junior Battalion.

One hundred and sixty-six men from the class of 1918, nearly one-third of the total number enrolled, were organized at the beginning of Summer School into two infantry companies and drilled on Tech Field in close and extended order. The work was done during the afternoon period between 2.00 and 5.00 o'clock each day except Sunday, the first two hours being devoted to intensive infantry drill and the last to a stiff course in calisthenic exercises. This plan was supplemented by brief but inclusive courses in ordnance work for Course II men, telegraphy and outdoor signaling for men in Course VI, and similar branches of military service for men whose studies are most closely allied to them.

The drill was so conducted that each man in the company had an opportunity to exercise command in the rank immediately above that which he occupies so that he may learn more rapidly the necessary requisites for a reserve officer. This is the system which the government has found so advantageous in its military courses at the various training camps.

The work was done under the direction of Major Hamilton, Captains H. F. Collins and H. W. Fitch, all of whom have had three or more years of military experience in handling men in the Technology Cadet Corps. The calisthenic exercises which include Butts' Manual, the same work that has been given to the freshmen each year, was supervised by J. W. Kilduff, '19, gymnasium assistant to Frank Kanaly.

The hard work done at Camp Cunningham may best be shown by the special bulletins published weekly in *The Tech* written by



SOPHOMORE ENGINEERS ON THE HIKE



RETREAT AT CAMP CUNNINGHAM

Photos from East Machias by Lieut. A. E. Tuttle, '17

men on the spot. They give a vivid and picturesque account of the life of a student soldier. The camp opened on July 18.

CAMP CUNNINGHAM, Technology, Maine, June 24.—After a week spent in gathering headway, the work at Camp Cunningham is now in full swing. The men, at first somewhat inclined to be over free and independent, have gained a better understanding of military discipline than freshman drill had taught them.

Our first idea of what was to be our daily itinerary was gained from Major Russell's talk of last Tuesday. We had been in camp for one afternoon and having eaten two surprisingly good meals were feeling rather optimistic about what store for the future Camp Cunningham held for us. The major's short address in the evening only served to increase our optimism. It appeared that the restrictions would be few, and the freedom, outside of working hours, would be all that the most rabid anarchist could desire.

So drill the next day was rather discouraging. We had been told that we were all embryo officers, and consequently felt our importance. Great difficulty was had in the handling of the men, on account of their high spirits, and the narrowness of the drill field, which was hardly wide enough to permit the maneuvering of a squad to say nothing of a whole company. The mess hall or other edifice was continually in the way, or danger of tumbling down the steep and thorny descent into the lake was narrowly escaped.

Wednesday evening we had not yet been put to work in real earnest, so everyone was aching for an opportunity to display his willingness to work. During the recess between recall and evening mess, a call was issued for volunteer trench diggers. Fifteen, the requisite number, had offered their services before the officer had visited a quarter of the camp, and the trench was completed in half an hour. It happened to run just in front of the washroom door, and at half-past nine, just before call to quarters, it was filled with struggling "rookies" who were betrayed by the darkness and general rush into the unexpected pitfall.

It was not long, however, before we were given all the opportunity to satisfy our craving for work that we wanted. There was, and still is, a lot to be done in the line of miscellaneous improvements around camp. Construction operations with their consequent disorderliness are under way on the new barracks and power house. The heavy rains of a week ago did considerable damage

to the roads about camp. We have to help in construction, dig excavations and pipe trenches, clean up debris and repair the roads. The decision now handed up by the exhausted men leaning upon their shovels in a muddy ditch is that there is no difference between an army engineer and a day laborer except in the matter of swearing, and even in that respect there is some prospect of emulation.

Drill also has become a more serious matter than at first. We spend hours rehearsing movements that never seem to improve. Yet they do. The drill and discipline are both undeniably better than a few days ago. But no sooner do we become reasonably perfect in some movements than new ones are tried. The latest is platoon drill. As there are not enough men to complete a full war strength company with four platoons, our ingenious officers devised a system whereby ropes are made to take the places of privates, and two men are enough to represent the workings of a squad of eight. And some of the men thus relieved from ranks are set up as platoon commanders and guides, entrusted with the duty of giving orders to the platoons in the complicated drill. There was endless confusion the first time this was attempted, so the lieutenant resorted to a blackboard demonstration of the intricacies of platoon movements.

When Camp Cunningham is complete no feature for the comfort of the men will be lacking, shower baths being already built while a power plant is building under the direction of Captain A. S. Smith, superintendent of buildings and power at the Institute, which when completed will furnish the barracks with electric light. The site of the station has been surveyed and levelled and the excavation nearly completed. A narrow clearing is being cut through the thick brush of the woods near the camp site, for the rifle range where every man will take his turn at the target, while other privates mark in the butts. It is hoped that every man at Camp Cunningham will qualify as a marksman.

A day at Camp Cunningham is a busy one for the private, work being provided for from 6.15 o'clock in the morning to Taps at 9.45 at night. The complete itinerary for the day according to the camp bulletin number one is as follows:

6.15	First Call
6.30	Reveille
7.00	Mess
8.00	Morning Drill

11.30.....	Recall
12.00.....	Mess
1.30.....	Afternoon Drill
4.30.....	Recall
5.45.....	Retreat
6.00.....	Mess
9.15.....	Quarters
9.30.....	Tattoo
9.45.....	Taps

All the duties in the camp are being performed by the students even to kitchen police, which is usually heartily detested by the soldier as it is handed out to privates as a disciplinary measure. Different squads go on police duty every day, and do not have the regular routine drill, but help on the construction of the power plant, the barracks and the rifle range, which is being built under Ordnance Officer A. E. Tuttle.

The drilling of the company is conducted along the lines universally adopted by the government at the reserve officers' training camps at Plattsburg, Madison Barracks and elsewhere. The enlisted men are shifted within their squads, each man serving as corporal for some part of the drill. When the men have become more expert in the drill, a private may at any time be called out of the ranks to take charge of the whole company. In this manner each man gets a chance to act as an officer.

Up to today there has been no organized athletics except baseball practice but according to the program of the general staff several track meets will be held during the stay on the shores of Gardner's Lake. The meets will probably be for individual honors. A water sports carnival is being planned though there has been little swimming in the cold waters of the lake.

The officers and staff of the camp are given in the following general orders number two.

The following organization of staff officers has been perfected and becomes operative from this date (June 15): Chief of Staff, Lieut. J. M. DeBell; Adjutant, Lieut. P. C. Leonard; Quartermaster, Lieut. F. A. Washburn; Ordnance Officer, Lieut. A. E. Tuttle; Technical and Engineering Staff, Captain Wirt, Lieut. DeMerritt, Lieut. Clarkson, Lieut. Lowengard, Lieut. Davidson.

TECHNOLOGY, ME., June 26.—Major Russell, who is in charge of Camp Cunningham, in speaking to the sophomore company

this week, said that the camp was a bigger success than any similar undertaking Technology had ever assumed. "I want to congratulate you men upon the thoroughness with which you have entered upon all your duties and especially upon the care which you have used in keeping the grounds cleaner than I have ever known them to be before."

The life at camp continues to keep the men hustling most of the time. Sunday usually finds between sixty and seventy hiking four and one-half miles, sometimes through the thickest kind of mud, to the nearest church. During the week, the campers have drill constantly under the supervision of Captain Wirt. The old tricks which have become traditional to all freshman classes fail completely as excuses when they have to come before the judicial eye of First Sergeant Lewis. He does not consider that tardiness or absence has any legitimate excuse so the men have learned to be "on time all the time."

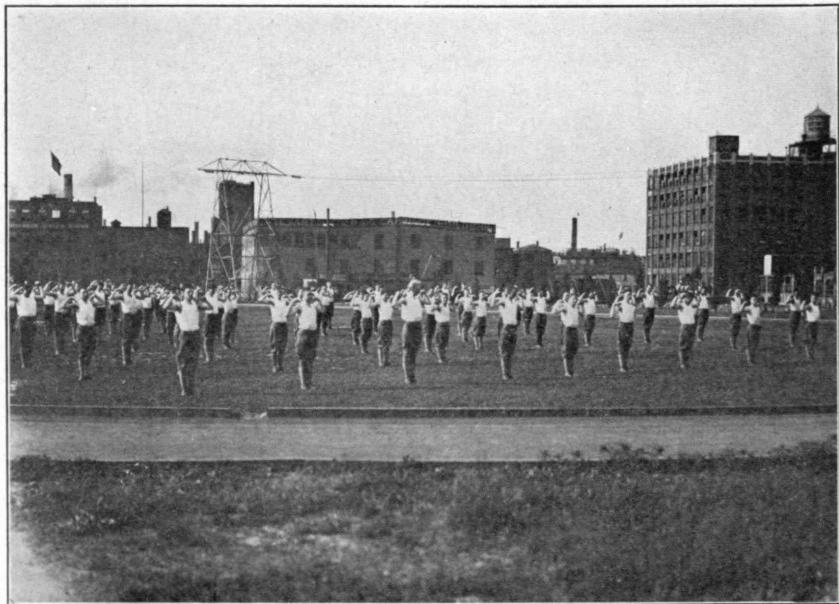
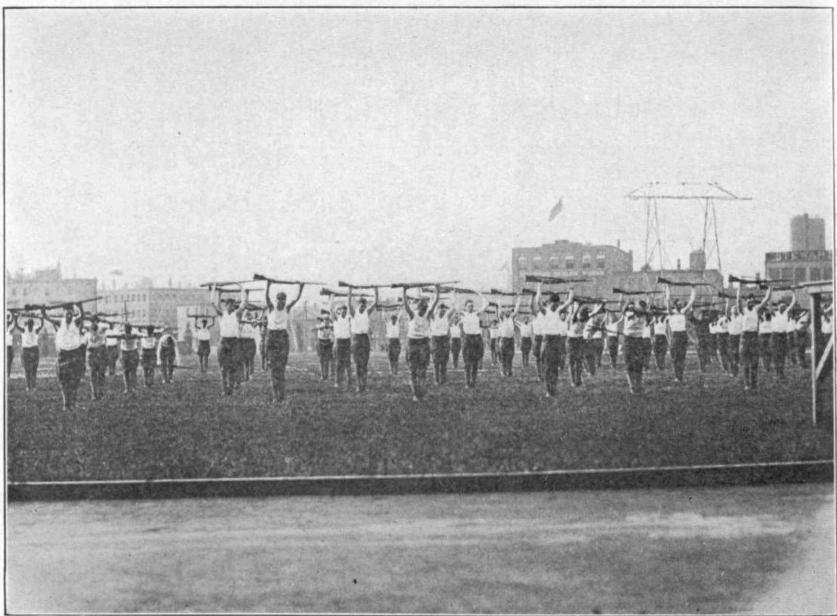
Most of the drilling the last few days has been devoted to extended order work. Part of the time, however, was utilized in the instruction by the ordnance department in the use and care of the U. S. Army rifle, the Springfield 1913, and in aiming and firing of the pieces. Before long the men are to use the new ranges which have been under the process of construction.

The "rookies" have had a taste of the Jersey pests that have evidently migrated to Maine, for the camp suddenly realized last Saturday that every bed must be well protected by a thick coating of mosquito netting or its occupant be compelled to spend the night fanning himself feebly in the darkness. Mrs. Cunningham, whose thoughtfulness of the men has made life at camp doubly pleasant, sent a large quantity of the precious protective netting which now insures every man of a well-earned night's rest.

Dr. Adams, the camp physician, has been taking a stiff course in military tactics as well as giving instruction to the men and looking after his patients. Last Sunday after mess, the doctor gave an interesting and practical talk on "First Aid." The sick list has been fortunately small.

The power house which Captain Smith is building is now being rushed to the full capacity of the materials at hand. The work has progressed so rapidly that he anticipates that the building will be entirely completed before he leaves the camp on Saturday.

Last Sunday was to have been "Visitors' Day," but owing to a



THE JUNIOR BATTALION AT WORK ON TECH FIELD

heavy rainfall, the visitors did not arrive. A member of the Corporation, Mr. Eaton, visited the camp on Monday, coming through the deeply rutted roads in his automobile. The following morning he "turned out" before reveille and returned with a string of salmon for the officers' breakfast.

CAMP CUNNINGHAM, Technology, Me., July 4.—Twenty-four hours a day are not enough for the general staff at Camp Cunningham. To the men who had thought that the summer training unit on the shores of Gardner's Lake was almost one drill after another, the announcement that the number of hours of drill per day would have to be increased to complete the program called for, came as a big surprise. The time is so limited that it was necessary to lengthen the hours of drill each day to cover the scheduled intensive military program. The new schedule was announced in general orders number four and is as follows: "Beginning July 3, the following schedule of bugle calls and formations will become effective:

5.30	First Call
6.00	Reveille
	Assembly
6.25	Mess
6.30	Assembly
7.00	Sick Call
7.10	Drill
7.15	Assembly
11.30	Recall
11.55	Mess
12.00	Assembly
12.55	Drill
1.00	Assembly
5.15	Recall
6.05	First Call
6.15	Assembly
	Retreat
	Colors
6.25	Mess
6.30	Assembly
9.15	Quarters
9.30	Taps

In preparation for the big celebration on Independence Day a

Technology Sophomore Military Band was formed, under leadership of Bugler R. H. Gilbert and consisting of two cornets, Lieutenants Tuttle and DeBell, drum, Young, and flute played by Hackett.

Under the direction of Superintendent of Buildings and Power Smith, the work on the power house was rushed to completion and lights were burning in the company streets and barracks before dark. After mess the lights were turned on and later, while most of the company were assembled in Bemis Hall, the band struck up a lively tune, the company fell in behind, and all marched to the new barracks midst the crackling of flares and sparklers. With the occupation of the new barracks the company made a great demonstration, with the singing of the Stein Song and cheering.

This morning broke fair with a clear sky and arrangements were immediately begun for the Independence Day events. After the morning mess the entire company filed past the camp store where each man received a half pound of chocolate, gift of Mrs. Edward Cunningham, donor of the fund which made Camp Cunningham possible. Fireworks were also distributed.

Athletic events and a water sports carnival were held this morning, being featured by a tug-of-war between the front rank and the rear rank and file closers. After a four minutes' tussle the rear rank pulled the men they "cover in file" through the four feet of mud which separated the opposing teams. Davis, Caldwell and Little were stars on the track sharing the honors pretty evenly in the obstacle and 880-yard road races, but keeping all others out of the running for the first three places.

The swimming races were closely contested, starting with the 25-yard spurt and ending with the half-mile. Birmingham came in a winner in the 25-yard swim, while Sherman, McKay and Boley won the 50-yard, the 100-yard, and the half-mile races, respectively.

After the field and water events, the men went over to East Machias to meet the renowned East Machias team in a snappy game of ball. The snappiness was all taken out of the local team, when the strong camp battery, after a speedy fight, won with a score of 7-1. The hikers returned to camp in a thick fog, arriving so late that they were too tired after eating to build the fire which had been planned and to set off the fireworks that had been sent by Mrs. Cunningham, but instead saved them for another celebration which they are going to hold Saturday night.

The work of the Junior Battalion in their less picturesque quar-

ters in Cambridge was no less characterized by hard work. Study all morning, drill all afternoon, an occasional camp and practice on the rifle range at Cameron Forbes's estate in Norwood over the week end—this made up their life for two months.

Both the sophomores and the juniors expect that this extra summer work, both in drill and in their regular courses will leave them enough free time during the remainder of their courses at the Institute to enable them to fulfill the requirements for reserve officers' commissions, which, under the new arrangement beginning this September, they expect to receive at the same time as their diplomas. And this possibility is due to the generosity of Mrs. Cunningham and to the energy and foresight of the joint committee heartily backed by the hard work of the men themselves.

THE WAR-TIME "TECH"

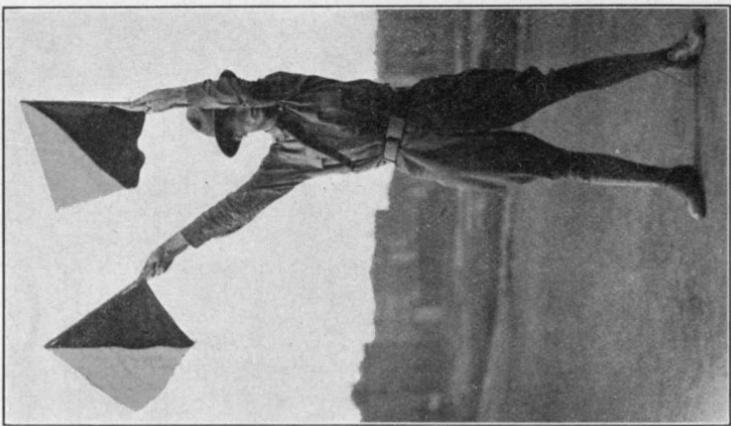
A notable piece of undergraduate journalism. Its need
of support

The TECHNOLOGY REVIEW wishes to extend its thanks to *The Tech* for the use of much of the material in this number which first appeared in the pages of that paper and for numerous photographs. The REVIEW felt that a great deal of *The Tech's* valuable material was a vital part of the war record of the Institute and as such should be retained in the REVIEW which aims to keep the permanent record of the activities of the alumni.

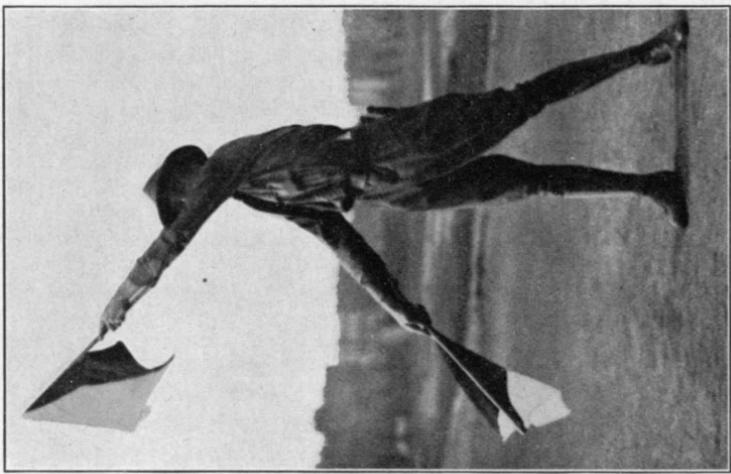
With the declaration of war the undergraduate board of *The Tech* saw an opportunity for extended usefulness which it promptly took advantage of by planning to publish twice a month during the summer all the news of the activities at the Institute, whether strictly Technology affairs or not, as well as such news as could be obtained from the hard-working men at Machias, Plattsburg and Washington. So successful were their first issues that the Washington Bureau and the Alumni Association decided to use it as the official news organ of the alumni as well as undergraduates.

Beginning with the first issue in July this was effected after some reorganization. Paul J. Leonard, '17, who is to be an officer of the Institute next year, was made general manager; and the staff was strengthened by the appointment of Kenneth Reid, '18, acting editor, Richard A. Wilkins, '18, acting treasurer, and William Eastman, '18, acting advertising manager. A. P. Farnsworth, '19, circulation manager, tackled the new and larger problems which the constantly growing alumni subscription list entailed, and Donald Way, '18, almost single-handed, has been doing the work of managing editor, which means practically getting out the paper. All alumni who have been following the issues of the War-time *Tech* cannot help but recognize that here is work far superior to the ordinary run of college journalism and one which deserves the title of "professional" in the best sense of the word. *The Tech* wants to reach every alumnus in the country or outside, for only in this way will the large body of men interested still in what Tech men are doing be able to follow it closely and thereby find opportunity to coöperate.

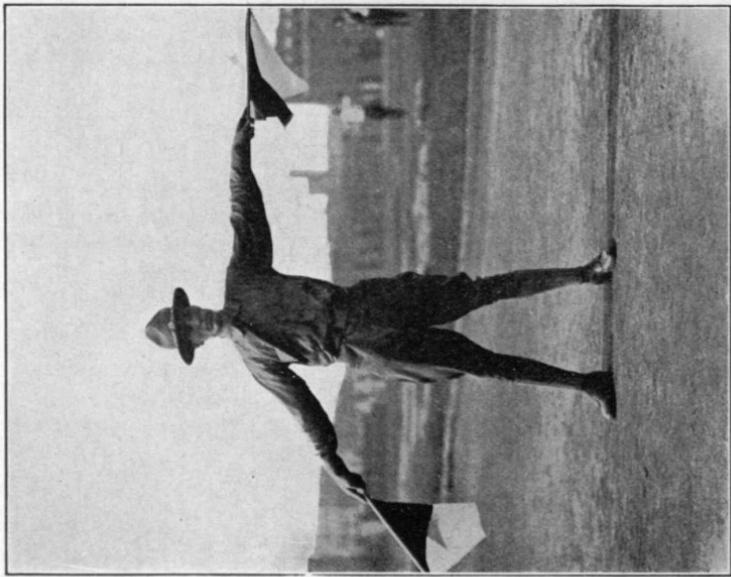
Therefore, subscribe to The Tech!



T



L.



M.

NOTABLE EDITORIALS FROM THE TECH

Publicity has never been a thing upon which Technology has laid great stress. The graduate has, in the past, gone out to work with a full knowledge that Technology would continue to perform its proper work to the fullest degree of its resources, mental and physical. The Institute has assumed that the graduate, following the training received, would find his proper place in world activities and comport himself as every Technology man should. Beyond such ties as were established through the TECHNOLOGY REVIEW, there seemed little need of further publication of the doings at the school or among the graduates.

As to the public, the Institute has always adopted the policy that, as an educational institution, its duty lay in supplying the best that it could in its line of education for those who chose to take the work offered. When it was deemed wise or necessary to make a change, whether in addition of new work, new men, or new methods, such change was made. The fact of necessity for change being established, action was all that was needed to enable the Institute to serve to the fullest the purposes for which it existed. Such action called in no manner for an expression of opinion on the part of the general public, nor are such minor details, however important they may seem in their sphere of interest to any outsider other than the mere book-worm who can find interesting reading in a time-table.

But the war came, and Technology, heretofore an isolated institution of learning, became suddenly a great national engineering school. Its alumni have dropped their normal pursuits to render service to their country, and the school has so broadened the field of its activity that its influence is vitally felt from coast to coast. So vast has been the development—and it is a development, not a change,—that the normal channels of information have become clogged. Hence, from now on, the great news of Technology and its activities must find expression through the public press.

It is not the foolish caper of the college boy nor the eccentricity of the sage that we would prate in bold type before the gaze of a yellow-journalized public. It is the big, almost overwhelming task that Technology has assumed and is carrying on successfully that we would present to an intelligent public in a sane, businesslike, intelligent way. To this end we hope the papers will coöperate with us, so that the public may learn that a real college is where big men do big things in a big way.

THE INSTITUTE AND THE DRAFT

Among the 687,000 who are to be drafted during the next few days, there will undoubtedly be included some Technology men. What will be the service they are called upon to do, rests with the government working through the exemption boards. If the government chooses, it can take trained engineers, or those with an engineering training partly completed in a school already designated by that government as the official training place for officers in the technical branches of the service, and place them in the ranks of infantry fighters in the trenches, where the knowledge and skill will be of negligible value. Or, it can, like a wise government, choose its men for the particular job which fits them.

There are those who would applaud the first course of action as being democratic,—a blow against class distinction. Such a position would be justified were the sons of Technology trying to evade their duty and to shift the burden to other shoulders.

But, fortunately, Technology men are far from unwilling to fight. When the time comes, they will be found in the forefront of the forces of the nation.

They do not, however, feel that it is too much to ask of the government an opportunity to give the full service of which they are capable as engineers. They have acquired by hard labor and sacrifice a high degree of technical knowledge, a knowledge which experts predict will command a premium before the end of this war. If the government wishes to go about its task with real American efficiency and foresight it will not push these willing, trained men into positions of importance, but will rather take advantage now of every Technology man's scientific skill, and use him where he can give the best that is in him for his country.

SELECTION FOR THE DRAFT

One of the greatest revelations of the present war is the extent to which reliance for its actual conduct is placed not so much upon the man merely skilled in military manoeuvres as upon the man with the trained intellect. The fact that college training is the initial requirement of entry into many of the lines of war work is evidence of this condition.

Through the developments resultant from the revolution in Russia, and various local movements, it is rapidly becoming evident that order, harmony, and consistent growth are dependent upon control by a united action upon the part of those possessed of a certain amount of higher intellectual training.

It is essential that the future development of not only our country but the world at large be based upon the principle of control by intellectual and scientific expression, rather than upon the impulsive and spasmodic control of emotional self-expression. No government is stable whose enactments are subject to the uncertain and fluctuating wishes of mere temperamental or personal desire, whether such government parade under the name of "true democracy" or have its real title, "mob rule."

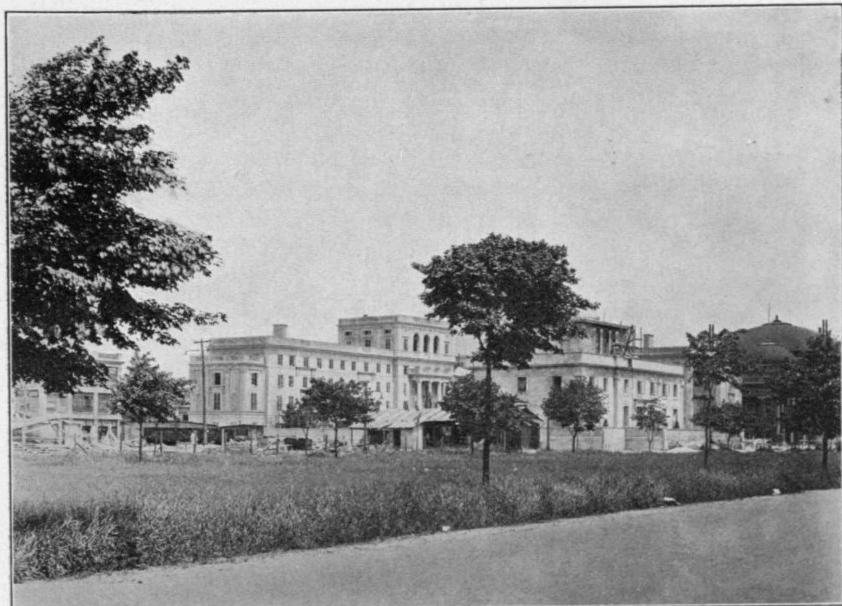
To the end that the spirit of liberty and democracy now seizing the world be not diverted into the channels of self-centered interests, be they of capital or labor, party or person, it is essential that the man of trained intellect be not drawn indiscriminately into the army, only to leave a man far less capable than he to exert a greater power in the interest of the self-centered propagandist.

The condition which is to prevail is yet to be revealed, but thus far the draft seems to have been thoroughly impartial in its selection of some of the best men training in our colleges and universities. It may be that the exemption boards are so constituted as to include in their personnel that type of men which is capable of recognizing the value of mere intellectual development. Our young college men may then be placed so that they may serve their country in the double capacity of war workers and active agents in the reconstruction of stable world conditions after the conflict.

The Institute has done and is doing all in its power to impress the necessity of the recognition of this fact upon those in charge of the draft, and it is indeed our earnest hope that those alumni who have anything to do with the work of selection keep in mind the fact that without a majority of those so trained that their reason is greater than their desire, and their power of analysis greater than their response to emotionalism or personal appeal, our country will face an immediate future of confusion and strife till such time as our schools and colleges can again establish the proper balance and control.



THE WALKER MEMORIAL OFFERED TO THE GOVERNMENT



THE PRESIDENT'S HOUSE NEARING COMPLETION

THE WALKER MEMORIAL

The undergraduates make a willing sacrifice of the club home
to the government

It is peculiarly fitting that when the new Walker Memorial opens on the first of September it should be dedicated to the service of the government which General Walker served in war and peace with so much distinction. For years the undergraduates of the Institute have been looking forward to a social centre of their own which should be as commodious and elegant as those which other college men enjoy. Particularly during this last year, when the activities have existed cheerfully and efficiently in chicken-wire coops in the basement of the civil engineering building, and when the minor organizations have met where and when they might find a vacant room, the need for the Memorial has been still more greatly felt and the prospect of its speedy completion has been a welcome one.

But there is no undergraduate, we believe, who will not feel that in the Institute's offer of the building for the use of young men not students of Technology but training for service there under government control, the essentially right thing has been done. The Institute will be crowded anyway and with the aviators, military and naval, taking up the room they occupy at present in buildings 1 and 2, the authorities would be seriously embarrassed for lecture and classrooms. But the Walker Memorial is large enough for any number of men the government may send. The large dining hall, the lounge rooms, and the great gymnasium will accommodate for sleeping and living purposes many more men than the government plans at present to send us. The kitchens, bakery, ice-plant and the like are already at work supplying food for the Institute restaurant. The Memorial will in itself be able to take care entirely of all the needs of the officers-to-be. Poolrooms, bowling alleys, a barber shop, even a rifle-range will cater to all the activities of man. And it seems certain that the building will be entirely ready for occupancy several weeks before the Institute itself re-opens.

It is hoped that the undergraduates will not lack entirely the use of their new half-million dollar home. Their activities will be

greatly curtailed, it is likely, by war conditions and their extra work in military drill, yet some of them will go on and it is to be hoped that the most important of them will have their office as originally planned, and that the student body will eat and have their meetings and social occasions in the Memorial.

In the Memorial there will be a great dining hall, the largest in Greater Boston, which will readily seat eight or nine hundred, smaller refectories scattered about in other parts of the building, a vast gymnasium in which several companies of the cadet corps can perform their evolutions if necessary, and a grand foyer for the students, who, under the new conditions, will have supplied to them the one feature that Technology life has lacked to a considerable extent, the opportunity for the students to get together under favorable conditions for personal intercourse.

The Walker Memorial will have sufficient rooms for the comfortable housing of student activities, a library, some space reserved for the instructing staff, rooms, and courts for indoor sports, and will be in fact the great meeting ground for the twenty-five hundred individuals who are expected to form the Technology family.

The architectural features of the Memorial will be in harmony with the new Technology. The building will be three stories high, with the esplanade front simple and in keeping with the educational in architecture. Entering, the visitor will find himself in a spacious tripartite lobby, with a great lounge on one side and the equally large library and reading-room on the other. Straight ahead will be the dining hall with its 9,000 square feet of floor space, and back of this the kitchen and service room. The building is H-shape in form, the dining-room being the bridge.

The dining hall goes up two stories, the second forming a balcony, affording consultation niches and on social occasions will afford a splendid vantage ground to see what is going on, for the great hall will be used for mass meetings, dances and other great student functions.

The undergraduate attitude towards the use of the Memorial by the government is reflected clearly and eloquently in a recent editorial in *The Tech* which sees how essentially fitting it is that the building named after a gallant soldier should be given up as the home of soldiers in a great war.

A WORTHY DEDICATION

"This fall there is to be completed a building which perhaps means more to the hearts of Technology men than does any other part of the great group. For years Technology men have been looking forward to the completion of the Walker Memorial, a monument conceived as a loving tribute to the memory of Francis Amasa Walker. The building has, this summer, been taking form in the midst of the strenuous war preparation being carried on at the Institute. Now suddenly comes the opportunity to use it for a greater purpose than was originally conceived of,—for the housing of the five hundred students in the schools which the government has done Technology the honor of establishing here. The announcement of this use is surprising, but upon second thought one finds it quite the natural thing.

"Two hundred army aviation students, sixty naval cadets, and two hundred men for the proposed Naval Aviation School, will be quartered here by September. When school reopens there will be little room for these men in the regular Institute rooms, especially in view of the increased registration expected. But here we have a half-million dollar building providentially adequate to take care of the need. What could be clearer than Technology's duty in such a case?

"An examination into the life and personality of the man to whom this great Memorial has been erected lends further approval to the plan for its utilization by these government military schools. General Walker was a soldier,—a man who believed in the training of the youth in military directions, who believed it a good thing for a young man to acquire the attitude of serious earnestness which comes through war service. What could please him more, then, than to know that this building was being used as an aid in the preparation of young men for service in our Nation's army and navy? There can exist no doubt in the minds of men who knew him as to what his action in the matter would be at this time. The Corporation could have found no more fitting way than this to dedicate the Memorial, and future undergraduates will hold the building in the more veneration to know that it began its career in such a service."

PROFESSOR BATES IN CHINA

BOSTON, June 25, 1917.

To the Editor of the Review:

If you have a corner for it, I should like to put on record how kind to me were Institute men during my visit to China last winter. It began at Hong Kong, where Mr. Arthur L. Todt, '14, was very civil, and took me across the harbor to Kowloon in the launch of the Standard Oil Company. It continued at Shanghai with emphasis. Here I was called upon by Chinese graduates, and afterward given by them a most delightful tiffin at a Chinese restaurant in Central Park with native dishes. The men present were C. Y. Wén, '08, professor of mining, Peking Government University; Ziang Yien Chow, '14, chief engineer, Ministry of Interior; Turpin P. Hsi, '14, sanitary engineer, Tsing Hua College, Peking; T. S. Chu, '15, lent constructor, Chinese navy; T. C. Hsi, '15; P. T. Mar, '15, assistant constructor, Chinese navy; Y. T. Ying, '14, teacher, Chung Hwa University; G. S. Ling, '14, assistant engineer of Cuh Chin Railroad. The dishes, which included an egg which gave its age as eighty years, were some curious, some really delicious. The egg was so preserved that it had no flavor of decay and was not disagreeable, although I did not especially like it. Later the American graduates were gathered for a dinner at the house of William W. Stevens, '98, and whether the men enjoyed it or not, I certainly did. The question of leaving depending upon me as guest and oldest, I kept them together until about midnight. The men, besides the host, were W. A. Adams, '08, H. C. Faxon, '08, F. W. McIntyre, '02, F. C. Mabee, '07, Julius Nolte, '98, C. L. Hall, '15, and F. R. Sites, '99. At both of these gatherings in Shanghai the warm feeling for Tech and the personal friendliness shown to me as in a way representing it were eminently good to see.

In Peking I was called upon by Mr. Ziang Yien Chow, '15, Department Surveying, Municipal Administration, and saw one or two of the other men there. As my stay was broken by a trip in the interior, and as I had a great many engagements while in town, I saw less of them, however, than I had hoped to see.

At Nanchow, when I boarded a train there, I found N. A. Thompson, '14, who is just now manager for the Standard Oil Company at Kalgar. I traveled with him very pleasantly to

Peking, and later, on his return to that city from a visit to Tientsin, I saw more of him.

The graduates I met in China seemed to be doing well, and about them was an air at once of efficiency and alertness which went far to explain why they seemed to be contented and happy. They were a set of men of whom any school might well be proud.

ARLO BATES.

As Far Away as Moscow

The following is a sample of the letters that are being received in greater numbers at the Washington office, showing how even far-away alumni have been reached by the Technology organization:

"I am today in receipt of No. 9, Vol. XVIII of the TECHNOLOGY REVIEW. The fourth item in the tentative report of your committee moves me to write to you and offer my services.

"I have been personally in charge of the manufacture of a considerable variety of munitions since the very start of the war. I have been through the preliminary stages of indefinite specifications, lack of dimensions and working limits, the difficulties of interchangeability when the several parts of a given unit are produced in different factories, and the reorganization troubles caused by changing over from one product to another.

"I have been a member of advisory committees charged with the task of planning and getting into operation new factories. I have designed and superintended the manufacture of many thousands of gauges for other manufacturers. I am busy and useful here, but America has first call on my services if they are wanted and needed.

"According to the journal of the A. S. M. E., a number of prominent engineers are being appointed for army reserve engineer officers. If any engineers are sent here, they should by all means have army appointments and travel in uniform.

"Make any use of this letter you see fit. I am at my country's service in Russia or in the United States wherever I may be of most use. It has occurred to me that my knowledge of Russia and Russian might be of some use to some of the commissions that I understand have been appointed and are to be appointed to visit Russia.

Yours very truly,

(Signed) G. W. THOMAS, M. I. T., '05.

Care The Singer Company,

Podolsk,

Moscow Government, Russia."

WILLIAM ROTCH WARE

William Rotch Ware, '75, born in 1848, and died in 1917, educated as an architect, first at the Massachusetts Institute of Technology in its early days, and later at the Ecole des Beaux Arts, became, at the age of twenty-eight, the editor of the *American Architect*, and devoted thirty-one years of a very earnest and industrious life to that journal. During this period the art of architecture in America developed from an imitative admiration for many peculiar expressions of both French and English antecedents, crudely performed, to many admirable examples of studied, refined work thoroughly consistent with modern conditions and appreciative of the best of the past. Eccentricity gradually yielding to sanity, with the standard of requirement constantly rising, was accompanied by corresponding improvement in the art itself. During this period Mr. Ware as editor of the *Architect* made it the exponent of the advancing interest in architecture. His editorials and comments were stimulating to the best efforts and enlightening as to the best purposes and results. Recognizing the fact that architecture is one of the three fine arts, he held it high and stated its ideals. By the public as well as by the profession, the *Architect* was welcomed for its frank and fearless advocacy of the best in study and design. He obtained critical articles at a time when ignorance of architecture was profound, and the journal occupied the position of being one of the few American weeklies which was frequently quoted abroad. Under his hands it became a forum for all subjects related to the profession. His brusque personality thinly veiled a sincere and kindly humor, associated with an intolerance for shams and a dislike for suavity. Though he at times regretted that he had not been active in the actual work of his profession, his influence as an editor was so unique that no such regret was justifiable.

In a formative and adolescent epoch in American architecture he fostered high ideals, guided endeavor and called attention to achievements, and therefore encouraged all that was best in the art—a work which was widespread in its influence and well be-fitted the man who devoted his life to it so successfully. Few have

more materially benefited the work of their profession than Mr. Ware did with his pen instead of with his pencil.

C. HOWARD WALKER,

Journal of American Institute of Architects, May, 1917.

Why the College Man?

Among those unacquainted with a college education and the work that term connotes, we find many today criticising as unfair and autocratic the preference given to college men who apply with others for admission to officers' training camps.

War is a time calling for quick and reliable action. When a man in every day life is called upon to meet an emergency he uses means with which he is familiar and of whose result he is certain.

Even if a man pursues nothing more than a purely classical course in college, granting that he really studies, he develops a mind which is analytical, active, alert. He specializes in the theoretical, technical and scientific approach to the subject and thereby learns to supplant narrow personal opinion with the wiser judgment of the scholar. The machinery of his thought becomes finely lubricated and he moves in quick response to reasoned impetus. He is a highly specialized and efficient mechanism. But what is greater than all, he is a mechanism of known man power. He must have a certain efficiency rating to be a college graduate, his college has set the standard he is supposed to represent, and while this great test may prove the estimates of the value of some institutions as false, it is drawing for the most part upon certified and proven stock.

The skilled mechanician, the amateur aero enthusiast, and many other cases of special development may rank equal with or above the mental adaptability of the average college man chosen, but the government has not the time nor the means of examining this class of scattered individuals. They are not a standard gauge and war will not permit the time to construct a new instrument by which to measure their reaction to the multiple mental impressions and problems of even one day of warfare.

Our colleges are open to all the men of America and in a time of crisis their product is the most convenient standard, most certain and most widely tested. Many of our young men, who, in the past, have found the lure of immediate financial return and evenings free for pleasure too strong, profit by this lesson and resolve that any future emergency will find them alive and alert, studying in every spare moment to qualify and measure up to the known and recognized standard of the American college education; and may our colleges after the big exam is over, compare their ratings and adjust their work so that our college men may all measure up to the highest standard of American ideals for service, to their homes, to their communities, to their country and to the world.—*The Tech.*

NEWS OF ALUMNI ASSOCIATIONS

A new plan for keeping the local associations interested

TECHNOLOGY CLUB OF PUGET SOUND.—At our last meeting of the club the following officers were elected for 1917-1918: President, C. H. Alden, '90, Henry Bldg., Seattle; secretary, H. H. Whithed, '11, 2006 East 54th street or care of P. S. L. L. & P. Co., Seattle; vice-president, W. Scott Matheson, '99, 17 West Lauder street, Seattle.—*W. Scott Matheson, '99, Westerman Iron Works, Seattle.*

TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA.—On Friday, April 27, our local association gave a dinner at the Engineers Club, to Professor George C. Whipple, at which time there were seventeen members of the association and guests present. Howard F. Clark, '12, presided.

Professor Whipple gave a very interesting talk of about one-half hour, touching on the various little happenings that have occurred at Tech recently. The work that was being done to place Tech men where there were most needed in the government service was mentioned, as well as the interest of the under-graduates in the training camps soon to be inaugurated.

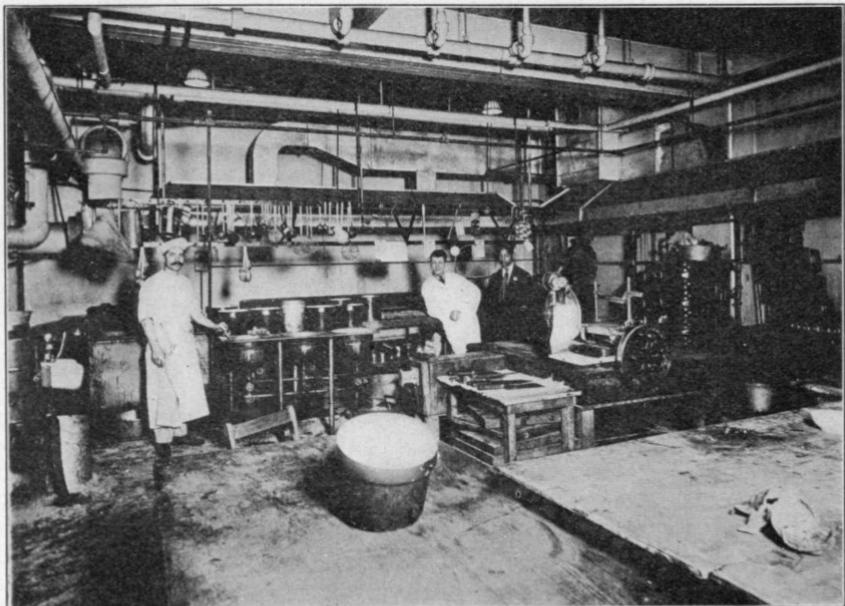
It was a pleasure to all of us to find one so having Tech's interests at heart.

Allen Hazen, a partner of Professor Whipple, gave us some interesting ideas on preparedness. Murray Warner, '92, was present and showed some slides that he had prepared from a collection of British enlistment posters.

Alumni present were: George E. Atkins, '04; J. R. Brownell, '01; W. A. Clapp, '93; R. S. Clark, '06; H. F. Clark, '12; L. P. Ferris, '11; Charles Gilman Hyde, '96; Allen Hazen, '88; E. Kriegsman, '05; Conrad Loring, '99; H. W. Stebbins, '02; Murray Warner, '92.

The association reports upon a few of the members as follows:

John R. Brownell, I, '01, superintendent of safety with the Industrial Accident Commission of California, has been appointed division director for the Coast Industrial Survey work of United States employees. The National Council of Defense has established a bureau covering this work.



THE "CAF" AND ITS KITCHEN
Which Fed a Thousand Soldiers Daily This Summer

George E. Atkins, XIII, '04, has been appointed assistant superintendent of new construction with offices at Mare Island Navy Yard, California. He has resigned from his position with the architectural firm of Willis Polk & Co. of San Francisco.

Howard F. Clark, I, '12, has received a commission in the engineer section of the officers reserve corps. He will rank as captain.

L. P. Ferris, VI, '11, who has been identified with the state-wide study of inductive interference carried on under the California Railroad Commission, has about completed the work assigned to him by the Pacific Telephone and Telegraph Company and will be leaving for the East in a couple of months. He has spent five years in his present work.

There have been no special meetings of importance since Professor Whipple was out here, but luncheons are frequently held and attended by groups of men in and about the city.—*H. F. Clark, '12, Secretary, 833 Market Street, San Francisco.*

THE M. I. T. CLUB OF AKRON, OHIO.—At the annual meeting of the Akron club held this year in June, the annual election of officers took place. R. W. Ferris, '08, Course I, 55 Rose avenue, was chosen president; Harold P. Gray, '16, experimental department, the Goodyear Tire & Rubber Company, secretary-treasurer, and J. W. Kittredge, '94, P. O. 175, South Akron, Ohio, chairman of the Executive Committee.

The club is glad to welcome several men from this year's graduating class. From Course X, William Hunter, William McAdams and J. Holton are with us. Course II sent the largest delegation, consisting of L. T. Cribben, F. M. Hatch, B. T. Hall, P. M. Flagg, and R. W. Drobisch. M. C. Brock is the only member from Course XV. All the above are working at the Goodyear Tire & Rubber Company.

A large number of the younger fellows in the club have enlisted in various departments of the army, a number of them going to the officers' training camps. J. B. Carr, '16, took examinations for the engineering corps of the regular army, and has received a commission as second lieutenant.—W. N. Drew, '10, E. C. Gagnon, '16, and M. H. Rood, went to the officers' training camp at Fort Benjamin Harrison.—C. H. Durkee, '15, and Arrin Page, '16, are taking a course in machine gun work at the Springfield Arsenal.—Lyman Baird, '14, and C. P. Kerr, '11, are with the aviation section

of the signal corps, and are stationed at present in Washington, D. C.—H. W. Treat, '14, R. A. D. Preston, '10, and several of the '17 men are engaged in aviation work at the Goodyear, building and designing dirigibles for the government.—*Harold P. Gray, '16, Secretary-Treasurer, care of the Goodyear Tire & Rubber Co., Akron.*

THE TECHNOLOGY CLUB OF FALL RIVER.—The Fall River association held its annual meeting on May 29, at the Hotel Mellen. The following officers were elected for the ensuing year: President, Charles H. Warner, '89; Secretary and treasurer, Arthur E. Hirst, '13; Executive Committee: The president, the secretary, and W. H. Eddy, '85, A. E. Slade, '75, John Brown, '00.

Mr. James P. Munroe, '82, of the Corporation of M. I. T., gave a very interesting talk, describing the present status of the Institute buildings and the activities of Technology and the alumni. He also touched on important facts brought out by personal contact with high officials of the European belligerents.

Of the local association, A. L. Shaw, '09, and G. S. Darling, '13, have enlisted, the former being at Plattsburg as a member of the engineering corps and the latter having joined the naval reserve. E. G. Thatcher, '02, is captain of a company of the local state guard. A. E. Hirst, '13, working under Nathan Durfee, '89, is engaged in the production of large quantities of army cloth.—*Arthur E. Hirst, '13, Secretary, 55 Madison Street, Fall River.*

INTERMOUNTAIN TECHNOLOGY ASSOCIATION.—We are pleased to announce the marriage of Miss Clarise Doble to Herbert L. Williams, '06, at Quincy Mass., on June 12. They will make their home in Salt Lake City.

John H. Leavell, '07, has enrolled at the officers' training camp at the Praesidio. He has been just recently transferred to the Vancouver Barracks.

S. W. Selfridge, '13, has enrolled at the Praesidio and is out for a commission in the coast artillery.—*W. H. Trask, Jr., '06, Secretary, University Club, Salt Lake City.*

TECHNOLOGY CLUB OF NORTHERN OHIO.—The Technology Club of Northern Ohio has asked its members to duplicate as

nearly as possible the personnel sent Boston in regard to their fitness for serving the country in various capacities. A large majority of the members have given this information to the local secretary who in turn has sent it through the various channels where technical men are needed.

Several of our members have received commissions, they are: A. M. Eicher, '12, first lieutenant, engineer officers' reserve corps; G. Katzenstein, '13, first lieutenant, ordnance division; A. A. Gould, '10, captain, motor transport division of the ordnance department.

Captain Gould has been loaned by the United States government to the British Division in this country who are inspecting trucks. At present he is actively engaged in the allied cause out in Wisconsin.

D. P. Rogers, '14, is in France with some of his own friends of Toronto actively engaged with the British Red Cross.

A number of our members are engaged in industries necessary in the production of government materials, such as steel, rubber goods, woolen goods and electrical supplies thus making the number of commissions, issued to date, rather small.

With the new arrangement for the distribution of news through *The Tech*, we hope the Northern Ohio Club will be prominent in promoting the country's welfare.—*C. B. Rowley, '12, Secretary-Treasurer, Care of H. W. Johns-Manville Co., Superior Ave., N. W., Cleveland.*

INDIANA ASSOCIATION OF THE M. I. T.—The monthly meeting of the Indiana Association was held July 16, at the University Club, with a large attendance present.

Of our number, William Guy Wall, our vice-president, and the chief engineer of the National Motor Vehicle Co. have left for the East to take charge of government work in the manufacturing and designing of motor trucks.—William Winter is at Fort Harrison drilling in an officers' corps, and Walter Marmon, head of the Nordyke Marmon Co., is after the aviation end.—William M. Taylor, of the Chandler Taylor Co., was appointed as an alumnus to represent this club, to act with the Intercollegiate Intelligence Bureau.

We expect to pull off a summer picnic soon, and will send further details later.

Our crowd are for any work or efforts demanded from Tech men, only say what to do.—*Wilson B. Parker, '88, Secretary, 805 Board of Trade Building, Indianapolis.*

TECHNOLOGY CLUB OF EASTERN NEW YORK.—We have recently held the annual meeting of the Technology Club of Albany-Schenectady and at that meeting we changed the name of the club to its present title, Technology Club of Eastern New York. We announce the election of the following officers: President, N. J. Kingsbury, '02; first vice-president, E. H. Sargent, '07; second vice-president, Robert Palmer, '04; Secretary-treasurer, C. N. Draper, '07.

We have formulated a plan of awakening more enthusiasm and interest among our members and it has worked out so successfully during the past year that we are bringing it to the attention of the other clubs through the REVIEW. This personal influence scheme has been a decided success and we have held throughout the year monthly luncheons at which more than a third of our members were always present. At the time of showing the Reunion pictures we gave a successful dinner dance at the Mohawk Golf Club at which 30 couples were present.

A further feature of our club which we expect will be of assistance in preparing the registers of former students and graduates, is to send to Mr. Humphreys each year a typewritten list of all our members, with their present occupations and business addresses. If every club would do this, it would keep our list of graduates up to date and reduce materially the expense of mailing cards to be filled out.

We publish in full the following letter from the secretary to E. H. Sargent of the Albany association:

"I want to tell you about the plan of alumni association development which Messrs. Palmer, Kingsbury and myself have devised and to ask your coöperation. This plan consists of a scheme whereby the secretary can be kept in closer touch with all the men of the association and obtain reliable and definite information concerning any man in a comparatively short time. At present the members are merely notified by mail of a meeting or banquet and the personal side is neglected with the result that either the men forget about the engagement or else lack the personal interest sufficient to be present. This plan seeks to overcome these con-

ditions by having the members so organized that for every gathering of the members all will be personally notified and interest stimulated by personal interviews.

"To carry out this plan a secretary's committee is to be appointed, of which the secretary is chairman, which committee will vary in number according to the size of the club, but for our club at its present size will consist of eight men, three in Albany and five in Schenectady. To each of these men will be assigned ten or eleven members for whom they are personally responsible and it is the aim of this plan that these eight men will keep in close touch with their respective men and keep an accurate personal record of each. When notices are to be given the association it will be only necessary for the secretary to notify these eight men and these men in turn will notify their respective men personally, the personal element being the essential feature of this plan, and no member of the committee should have more men than he can keep in touch with personally.

When for instance a banquet or a smoker is to be held the members of the committee will keep their men informed of the date and try personally to get them to attend. The secretary by merely calling for a report from his committee will know definitely how many members will be present. In all matters the secretary will know the pulse of the club.

It is suggested that each member of the committee gather as much data as possible concerning his men and such information as whether a man is married or single, names and ages of any children, business connections, business address and telephone number, home address and telephone, clubs to which he belongs, whether he has a machine and numerous other items which will suggest themselves and which will be of interest to the association at large.

I am sending you the accompanying list of Tech men in Albany and I wish you would find out if every man is now in Albany and add the names of any who have been omitted. As there are thirty-two men in Albany and three members of the committee, including yourself, it will mean eleven men each for two members and ten for the third member. I wish you would select the ten men whom you will be responsible for and select the other two members of the Albany committee and the men they will be responsible for noting the same on one of the accompanying lists and returning the same to me.

"We are dividing the sixty Schenectady men among five members and as soon as this work has been completed with the revised list of men all this information will be sent to you and copies to the members of the committee. With this personal influence plan I think we may have a real live organization more actively interested in the affairs of the association and an accurate record can be kept of every one. No man should have over twelve men to look out for and when a man leaves town the committee member responsible for him should notify you and when a new man arrives in town his presence should be reported to you and you should decide what man should look out for him. I am sending you two extra copies of this letter to give to your two men on the committee from Albany."—*Clifton N. Draper, '07, Secretary-Treasurer, General Electric Co., Schenectady, N. Y.*

THE CINCINNATI M. I. T. CLUB.—On Tuesday, April 24, the Cincinnati M. I. T. Club, to further the work of Industrial Preparedness, held a smoker, inviting as its guests the 600 members of the Engineers Club, the Cincinnati Chapter of the American Institute of Architects, and the Chemical Society. Prof. H. B. Dates, '94, of the Case School of Applied Science, Cleveland, was the speaker of the evening, and explained to the technical men of Cincinnati what Technology was attempting to do in the field of industrial preparedness. He told in a most interesting manner what had been done in northern Ohio and described the recommendations made by Dr. Godfrey at the Cleveland reunion of Technology clubs.

Professor Dates was followed by Maurice Scharff, '09, the executive secretary of the Washington Department of Technology clubs, who explained the objects of this new department and the lines on which it intended to aid Technology in meeting the needs of the country in this time of national crisis.

After these stirring talks Rudolph Tietig, '98, president of the Cincinnati Chapter A. I. A., told of the work that had been done by the architects of the city and by the American Institute of Architects. Dr. Alfred Springer explained how the chemists had organized to make effective their services.

Refreshments followed and a very pleasant social time was enjoyed, the members of the different technical societies greatly appreciating the opportunity of becoming better acquainted with

each other and of learning more of the preparedness work in fields kindred to their own.

On Saturday, July 7, the club held a picnic at Ryland, Ky., enjoying there the hospitality of Colonel R. H. West. Baseball and swimming made the afternoon a pleasant one, after which those able to take a little nourishment enjoyed a chicken dinner in the true Kentucky style. Those present with their ladies were: J. B. Stanwood, '75, J. A. Hildabolt, '75, C. G. Merrell, '88, Stanley A. Hooker, '97, Herman A. Lackman, '05, C. F. Bragdon, '07, E. H. Kruckemeyer, '11, C. R. Strong, '11, E. R. Cowen, '07, and Charles F. Cellarius, '16.

Among those enlisted in the service of their country are Raynor H. Allen, '10, in the Engineer Officers' Reserve Corps at Fort Leavenworth, Kansas, E. L. Shurtleff, '14, gunner U. S. N. R. F. on the U. S. S. "Minnesota," and F. C. Baldwin, '06, captain, 1st troop, 8th Division, Fort Benjamin Harrison, Ind.—*Chas. F. Cellarius, '16, Secretary, Fourth National Bank Bldg., Cincinnati.*

WASHINGTON SOCIETY OF THE M. I. T.—The following circular sent out in July by the Washington association is full of suggestions to other alumni organizations:

The Washington Alumni Association of the Massachusetts Institute of Technology requests the coöperation of all alumni, whether permanently or temporarily located in Washington, in the performance of its enlarged duties occasioned by the splendid response of Technology to the nation's needs.

Every alumnus must realize the opportunities now presented for service both to the nation and to Technology. Every one receiving this notice is urged to:

1. Report to local secretary the arrival or departure, with address, of every alumnus that he meets.

It is very important that the records be as complete as possible and that the nature of the activities of each Technology man be recorded.

2. Furnish news items for the *War-time Tech.* Such items should be mailed or telephoned to the Executive Secretary, Technology Clubs Associated, 908 Union Trust Bldg., Tel. Main 9326.

Personals and other news items of a more general nature are urgently needed to make *The Tech* interesting to all alumni.

3. Send in your subscription to the *War-time Tech* to *The Tech*,

Cambridge, Mass., or to the local secretary who will forward same promptly.

Subscription price \$1.50 for 52 issues. You will find them of intense interest and to insure success for this venture a *bona fide* subscription list is essential.

4. Identify yourself with local association by sending your annual dues, \$2.50, to local secretary.

This fee is required to defray cost of entertainments such as dinners, dances and picnics, also running expenses of an enlarged organization.

A volunteer is desired in each government department or bureau to assist the secretary in collecting and disseminating information among new arrivals whose names and addresses may be unknown.

—*W. C. Dean, Sec. pro tem., Bureau Construction and Repair, Navy Department, Phone Main 2790, Br. 96.*

TECH MEN IN THE PUBLIC EYE

EDWARD CANFIELD, '12, captain U. S. A., is in command of the engineers who are rapidly completing the big cantonment, Camp Devens, at Ayer, Mass.

WILLIAM H. BIXBY, who was elected president of the American Society for Testing Materials at the recent convention held in Atlantic City, was born in Charlestown, Mass., in 1849. A student for two years at the Massachusetts Institute of Technology, he was appointed to West Point and graduated from there in 1873. Serving as assistant professor of engineering at West Point from 1875 to 1879, he graduated from the French Government School of Bridges and Highways in 1881 and became lecturer on coast defenses at the U. S. Naval War College in 1887. Sent by the government to attend the French army maneuvers of 1880, he also examined and reported upon iron fortifications in Europe in 1881 and 1882. General Bixby has been in charge of U. S. river and harbor improvements in many states and has been in charge of lighthouse construction at many coast points. From 1905 to 1908 he was division engineer of the Northwestern and Western United States, and from 1908 to 1910 he was president of the Mississippi River Commission, being made chief of engineers, U. S. A. in 1910, retiring in 1913. On the outbreak of the war, General Bixby was ordered to resume duty, being placed in charge of the U. S. river and harbor improvements of the Kansas City district, with headquarters in Kansas City, but under a recent date his headquarters have been transferred to St. Louis. General Bixby is a member of the American Society of Civil Engineers, the American Society of Mechanical Engineers, the British Institution of Civil Engineers, the French Society of Civil Engineers, the U. S. Naval Institute, the U. S. Military Service Institution, and the British Association for the Advancement of Society. He was president of the Philadelphia Congress of the International Association of Navigation Congresses in 1912, and a member of the Executive Committee of the Pan-American Scientific Congress in 1915.

BUTLER AMES, '96, brigadier general and commander in chief of the state guard of Massachusetts, has been recommended by

the governors of Massachusetts, Connecticut and New Hampshire for the command of all the New England National Guard units in the federal army.

"The governor recommended Colonel Ames for the position as head of the New England troops because of the fact that the latter is well qualified. He is a graduate of the United States Military Academy at West Point, and of the Massachusetts Institute of Technology. He was instrumental in reorganizing light battery 'A,' M. V. M., putting it at the head of the state militia in efficiency and discipline. He went to the front in the Spanish War as lieutenant and adjutant of the 6th Massachusetts volunteer militia. At Camp Alger, Virginia, he was appointed acting corps engineer of the 2d army corps by General Graham in addition to his duties as adjutant of his regiment. In this capacity he put in driven wells, built bridges, repaired roads, etc. He went to Cuba and Porto Rico under General Miles, was in the skirmish at Guanica and Yauco road—was recommended for promotion to the colonelcy of the 6th Massachusetts regiment by his division commander, Gen. Guy V. Henry, and by his brigade commander, General Garretson, and by all the officers present with the regiment, to Governor Wolcott. He was appointed lieutenant-colonel of his regiment while in Porto Rico. He had charge of the civil administration of the northern central part of the island of Porto Rico in the fall of 1898. During his ten years in Congress he was a leading member of the committee on military affairs."

Those who know the French railway methods, and who also know something about SAMUEL M. FELTON, '73, are smiling to themselves at the prospect of Felton going over to reorganize the French railways.

When President Wilson began to organize the personnel of his National Defense Council, Mr. Felton was made one of its members, and to him was assigned the very important duty of acting as engineer-in-chief to the army.

Mr. Felton is believed to have had a greater range of railroad experience than any other railroad man in America.

He had a practical knowledge even before he had acquired the technical information. This latter he got at the Institute from which he was graduated in 1873, when he was twenty years of age. At that time, however, he already had been earning money on

railroad work, having drawn his first pay when he was fifteen. All told, he has been connected on one or another capacity on sixteen railroads, and has worked from rodman to president.

DR. C.-E. A. WINSLOW, '98, of the Yale School of Medicine, is engaged in Red Cross work in Russia. During his absence the editorship of the *Journal of Bacteriology* has been assumed by Professor Leo F. Rettger, Yale University.

Columbia University has conferred its doctorate of science on DR. GEORGE E. HALE, '90, director of the Mount Wilson Solar Observatory.

J. FRANKLIN McELWAIN, '97, chairman of the shoe subcommittee of the committee on supplies of the National Council of Defense, is one of the leading shoe manufacturers of New England. Born in Charlestown, educated in the public schools of Boston and at the Massachusetts Institute of Technology, he joined with his brother, William H. McElwain, in laying the foundations of a very successful industry which is as conspicuous for its fair dealing with its workers and in its social responsibility as it is for the cleverness with which it is managed. Mr. McElwain has been a vice-president of the National Boot and Shoe Manufacturers Association, and is a prominent member of the Boston Chamber of Commerce.

A committee has been appointed by the National Electric Light Association to secure subscriptions to a fund of \$5,000, in recognition of the work of PROFESSOR ELIHU THOMSON. A medal is to be awarded "in any year to any citizen of the United States or Canada who at the time of the award shall not be over thirty-five years of age, and who, in the judgment of the trustees of the medal, shall have made a notable contribution to electrical science or its industrial applications through original investigation research or discovery, or through whose direct efforts a substantial contribution to the advancement of the industry shall have been accomplished."

JAMES P. MUNROE, '82, has been appointed one of three lay commissioners on the Federal Board of Vocational Education which will have control of the expenditure of some seven millions by the state educational boards of the country. Vocational education has

been one of Mr. Munroe's greatest interests and it was he who suggested to Secretary Redfield that it would be wise to keep industrial schools open during the summer, to train younger men who in the fall could replace those called out by the draft, and to furnish men capable of becoming inspectors of munitions and the like. The idea, which was approved by a letter from the President, recalls Mr. Munroe's favorite idea of keeping the Institute running throughout the year, like the University of Chicago, thus saving time for men who want to get to work a year earlier and avoiding great waste by constant utilization of the Institute's tremendous plant. The Springfield *Republican* comments favorably as follows on Mr. Munroe's appointment:

"A manufacturer and prominent Tech graduate, who is also a lecturer on education and a writer on various subjects, is the Massachusetts man chosen by President Wilson as a member of the Federal Board of Vocational Education. James Phinney Munroe of Lexington is president of the Munroe Felt and Paper Company, but before entering on his career as a manufacturer he had served as secretary of the Faculty of the Massachusetts Institute of Technology. A good thing about Mr. Munroe is that he is not likely to take a narrow view of vocational education, for his intellectual interests are many, including history and politics in the broad sense as well as education, and he has been identified with several public movements. A man who has thought the 'New England Conscience,' a thing worth writing a book about, and who has a clear conception of all that is best in the New England moral tradition, is not a bad choice for any public board, provided he has aptitude and qualification for the particular work. This Mr. Munroe would seem to have, and the President's selection of Mr. Munroe for the one-year term on the board may lead to a reappointment."

MISCELLANEOUS CLIPPINGS

From time to time we learn that one or another of our scientific societies has deemed it advisable, on account of the war, either to cancel or to postpone meetings and conventions. This action, we believe, is altogether hasty. In order to expedite the solution of many of the new problems that have arisen as a direct consequence of our martial state, unrestricted discussion at scientific meetings is bound, in all but a very few cases, to give all of us a clearer understanding of the real points at issue and the needs of the country.

Science and War Meetings of scientific and technical societies have from time out of mind served as a great stimulus to the members, and have been a sort of clearing house for many of the best thoughts and ideas of our professional men. We should, accordingly, encourage rather than discourage the holding of such meetings throughout the period of the war. We should follow the example of England on this point. Finding that the country was face to face with a serious shortage of sulfuric acid, glass, dyes, electrodes, and many other essentials of industry, the British scientific societies arranged symposiums on these topics and not only urged all members to attend, but invited factory men to come and give their views and experiences, in exchange for those of the theorists. Much of value was accomplished in this manner.

Just as the great business concerns depend upon the organized efforts and efficiency of the several departments, so the government, in time of war far more even than normally, looks to the concerted action of its technical bodies for quick and efficient results. Let us continue to hold our meetings, more frequently even than before. We cannot afford a scientific moratorium.—*Scientific American*.

Dartmouth's admission of its faculty to a share in the appointment, promotion, and dismissal of its members does not come after a convulsion, Responsible Faculties such as those which preceded the recent reforms at Pennsylvania and Bryn Mawr, but it is nevertheless as radical a stroke as any yet made in the curbing of the power of college trustees. The faculty is to have only an advisory voice in changes, but since its co-operation is a formal part of the procedure, it will have the substance if not the show of power. More important as a guarantee of justice is the specific affirmation of the principle that election to a professorship or an associate professorship "should be considered as

on the basis of permanency, rather than a term appointment." Teachers below these grades are to have the right of an investigation before dismissal, unless the president and the advisory committee are unanimously against it. Of even more promise for harmonious and wise administration is the institution of a standing conference committee of three members of the faculty and three trustees.—*Nation*.

The war finds us with many United States patents owned by German subjects. Some of these patents have been granted on devices and processes the use of which is absolutely necessary to the health and safety of our people. While the liberal policy of our government with reference to patents should be continued, the necessity is becoming more and more apparent that some provision should be made in our patent laws which will legalize the use of patented inventions when industrial progress and public safety require.

German Patents It is not necessary or advisable to revoke patents owned by German subjects. If the manufacture under such patents is not carried on to meet the requirements of our people, the right to manufacture in the United States may be legalized, and the patents owned by alien enemies could remain in force without jeopardizing the public safety or industrial progress. If licenses were granted authorizing the manufacture in the United States under such patents during the war, and for such longer period as may be necessary, the situation would be immediately cleared. The law could provide for the grant of licenses by a court after a public hearing, the court to determine the amount of the royalties, which might be held by a trustee until the termination of the war, when the manner in which the royalties would be disposed of might be determined.

By such an amendment to our Patent Act, not only would the use of the inventions by our citizens be legalized, but it would be possible to hold the royalties, which might be paid to the owners of the patents on the termination of the war under such conditions as our government might deem proper.—*Scientific American*.

No Pension Graft August Belmont, of New York, chairman of the workmen's compensation department of the National Civic Federation, which has been actively coöoperating with the committee on labor of the Council of National Defense in the effort to suggest legislation to provide for the dependents of soldiers and sailors, said today that he is in favor of the government paying a given amount to men of good character, instead of an ordinary periodical pension or compensation payment.

"After a man has gone to war and risked his life, given up his business and the opportunity to profit by his years of education, he ought to have

every chance when he comes back," said Mr. Belmont. "If he desires to accept some sum, say half of the total amount that would be paid him eventually as a pension, to set himself up in business, I think he ought to have it."

Mr. Belmont said that there should be an opportunity for soldiers and sailors or their dependents to capitalize the payments that are to be made to them, as is done under some of the European systems of pensioning. He added that, of course, a man's character should be taken into consideration, and emphasized the fact that all pension and compensation provisions should be taken entirely out of politics and not be a matter for yearly appropriation.—*U. S. Bulletin.*

"War fever" has been especially prevalent in some of our colleges and schools, with consequences not wholly desirable. If we had been entering upon a ninety-day struggle, immature undergraduates, along with everybody else, might well have rushed to the enlistment booths. But the particular exigency called for nothing of the kind. Congress and the authorities at Washington were amply able to develop an army and navy system, and to find the proper types and classes of men in suitable numbers. It is particularly desirable that students in our schools and colleges should stay at their work and finish their courses, provided their work be thorough, and of a kind to prepare them for mature and efficient service after they graduate. If the work of the colleges is valuable, it should go on more seriously than ever. If it is not valuable, the methods should be reformed. No young man in the middle of a college course, who is willing to do his work well and who looks forward to a life of usefulness as a man and a citizen, need think of himself as a "slacker" in the eyes of sensible people if he sticks to his college work. The country will need him much more when he is through his course than it needs him now.

Furthermore, there are no other circumstances where military training can be given so economically and conveniently as in the large colleges and schools. Afternoons and evenings afford time for as much drill and as many lectures as military instruction could well require. Bodies of young men are already assembled, the college provides the dormitories, the commissary service is furnished, and little more is required except khaki suits, rifles, and a military instructor or two. The conscientious student at college may do all the work that pertains to his course of study while improving his health and fitting himself for future service, by taking military instruction regularly. Such a young man, after graduation, can soon qualify if he is needed for a officer's commission. Or if he enters the army as a private he may count upon rapid promotion. Young men at West Point are merely college students who are under military discipline and who take

special studies in military science because they expect to enter the army. The student at Yale, or at the University of Nebraska (Technology or anywhere else), who will avail himself fully of opportunities for military training while at college, serves the country best by sticking to his course, precisely as the West Point boy does his duty by remaining at West Point rather than by rushing off and enlisting as a private.—*Review of Reviews.*

There are two ways of looking at the cataclysmal events in which Europe—and incidentally the rest of the world—has lately been involved.

Future of Research Viewing only the dark side of the picture, one beholds an incalculable waste of human life and welfare, and a repudiation of the guarantees of Christianity and civilization boding ill for the future of our race. Fortunately, however, the picture has another side. The tragedy of the great war is, to contemporary vision, so appalling that one who should sweepingly characterize it as “a blessing in disguise” would perhaps be taxed with heartless flippancy; yet that many blessings have already sprung from it, as by-products, while others, still nascent, promise splendid development upon the restoration of peace, must be evident even to the most pessimistic observer.

This is not the place to forecast the social and moral consequences of the war. We should like, however, to dwell for a moment upon the hopeful outlook which science now enjoys, notwithstanding the misfortunes which it has, in common with other human activities, suffered in the general *débâcle*. That which science has especially gained from the war is prestige. Neglect of science in certain quarters has brought such retribution to the negligent ones that the lesson will probably never need to be repeated. This is true not only of science as applicable to military purposes, but also of science as applicable to industry.

The war has given an impetus to scientific research, the material and intellectual fruits of which cannot yet be estimated. Is it too sanguine a hope that they may actually indemnify the world for all that the struggle has cost?

This impetus has manifested itself in two ways: first, in the increased attention which various manufacturers have been forced by recent circumstances to devote to the scientific side of their own industries; second, and especially, in the elaborate plans adopted by various governments for the promotion of research on a national scale. Thus, the British government, besides organizing research on behalf of the army and navy, has developed a scheme for an “advisory council on industrial research,” which will control all government activities under this head.

This means, among other things, that the universities and other educational establishments will be encouraged by the government—if necessary by means of state subventions—to train even specifically for particular lines of research.—*Scientific American.*

For the man who merely requires a pencil and a piece of paper in order to win the war—and in more or less degree all of us are that man—there is very instructive reading in the British Munition Minister's account of development of war material given to the House of Commons. It is not so much the enormous sweep of the figures cited as their diversity that staggers the imagination; not so much the mass of labor that is expended as its apportionment in the face of a thousand different clamorous necessities. Somewhere in the Australian hinterland railway trackage is being pulled up in order to be laid down again in the desert of Sinai or along the Tigris or in Albania or near the White Sea or in the sector of Arras. Given a shipload of iron ore, it is for some one to decide whether that iron is to be shell, or barbed wire, or steel helmet, or aeroplane engine, or anti-submarine net, or boat anchor, or traveling crane, or farm tractor for the raising of potatoes to feed the crew of the ship that brings Chinese coolies from Canton to Marseilles to handle other masses of iron ore at the Creusot armament factories. And when you multiply the task by the number of departments, War, Admiralty, Agriculture, and Subsistence, when the problem develops into one of determining whether a man can be best used for throwing hand-grenades at Bullecourt or ploughing in Sussex or unloading wheat at Liverpool or manufacturing boots for the Russian armies in Rumania, it becomes plain how inadequate is the ordinary pencil stub and newspaper margin for winning the war out of hand.—*Nation*.

The commendable patriotic ambition of every rightminded American to render his best help in the time of his country's need has raised questions of choice for many citizens. The spirit of service is life throughout the country, and one's first impulse frequently urges him to enter those avenues of activity that lead nearest to the combat. A sane, calm review of the situation indicates, however, that there are many fields which require profound attention, even though they often seem quite remote from the trenches. The chemist in the munitions works, the bacteriologist who is testing the efficiency of the latest antiseptics, the agriculturist who is striving to solve the immediate difficulties of farm practise or aiding in the "speeding up" of the production of staple crops, live stock and other food products—all of these workers are an indispensable part of the great human organization that must coöperate to lead the way to victory. Frequently many workers, particularly younger men engaged in important investigations, gain the uncomfortable feeling that they are not doing their full duty when they plod along so far removed from the noise of the conflict. Such persons need encouragement at the present moment. They must not all be permitted to withdraw from the less conspicuous though highly important labor of productive investiga-

tion which may anticipate the needs of the hour. The war has already directed attention as never before to the intimate relations between science and industry, as well as to the vital necessity of fostering these relationships.—*Science*.

Forty-seven years of collegiate teaching constitute in themselves a sufficient title to honor, even though their number be only a record of faithful and continuous service. When the passing of **A Pioneer in Physics** these years has told also a story of important pioneer work, of purposeful achievement and steady progress, it becomes a record to conjure with. Of such is the repute that Professor Charles R. Cross has established in the long period of his association with the Massachusetts Institute of Technology, and of such the honor which the Institute and all men are glad to accord him as he now lays hold upon the satisfactions of a well-earned retirement. Being graduated from Massachusetts Institute of Technology in 1870, with the third class that went out from its halls, Professor Cross forthwith returned after the summer vacation to take up an instructorship in the department of physics. Upon completing a single year of this service he was made an assistant professor and by 1878 had been given rank as a full professor. In 1886 he became director of the Rogers laboratory and in 1907 was made head of department. It is the threefold mantle of these responsibilities which he wears today and which he now contemplates laying aside.

Such accumulated funds of loyalty to his institution, of prestige not only in its counsels but in the scientific world at large, and such skill of investigation and analysis as Professor Cross has acquired, constitute a tangible fortune which might well be assessed only for its large present values. Yet if one is to take his career in review, there must be observed in particular the contribution Professor Cross made to the establishment of electrical engineering as an independent department of modern scientific and technical training. In the early eighties, some time before the wondrous expansion in the practical uses of electricity had generally been foreseen, Professor Cross prophesied it and insisted on electrical studies as part of his teaching in physics. He offered them long before they were taken up by other educators throughout the country, he developed their technique and bore the brunt of a pioneer's labor. Later it was at his instance that Technology introduced the first courses leading to a degree in electrical engineering ever offered in America. All through this development, his influence made for the increasing use and effectiveness of experiments in the illustration of lectures—that most important change of emphasis which came to pass in the method of scientific education. Professor Cross has won high place, which he will hold, whether or not in retirement.—*Boston Evening Transcript*.

The greatest technical university in the United States, integrated, organized and card-indexed, from the youngest freshman to the oldest **Card-indexed** alumnus, the whole put at the service of the government during the war—that is the report given to the Alumni Council of the Massachusetts Institute of Technology here in Boston.

Technology is doing a unique thing. At this time, when every other college in the country is more than doing its share, sometimes to the detriment of the institution, it seems, the Institute recognizing that this is above all a technical war, in which science and skill count as never before, has urged its alumni and undergraduates to avoid too quick action, to leave enlistment in the ranks to the untrained, and to concentrate on furnishing experts and, above all, training experts. To this end the alumni, the undergraduates and the Institute itself have been mobilized for what seems to President Maclaurin and the authorities the most serviceable work.

The alumni of the Institute—unlike those of most colleges—are available for expert service in their own lines just as quickly as the War Department can find places for them. They are inventors, research workers, manufacturers, scientific experts in their own field. Some are already to be found in the technical departments of the War Office, in the ordnance, shipping, construction and engineering services. One of them, Dr. George E. Hale, '90, chairman of the National Research Council; another, Dr. Hollis Godfrey, '98, is one of the seven advisory commissioners to the Council of National Defense. With this in mind, as early as November, the M. I. T. Alumni Council set under way the machinery "to mobilize Technology's resources," so that the Institute might act as a whole without depending on local or individual effort.

The first problem was to find out what the scattered alumni could do. As soon as relations with Germany were broken a questionnaire was sent out to every alumnus to find out exactly what service each man could offer. Within a few weeks 5,000 men were indexed in the Alumni Office, not once but three times, to show at a glance their individual capabilities in order of importance.

With this index "Ike" Litchfield made personal canvasses of the various technical departments in Washington, many of them in charge of Tech men, and was able here and there to offer the very men the government had been looking for. He has placed already 140 men, has had requests for 270 more, and expects, as soon as the National Council of Defense can catch up with the situation, to be able to furnish as many men, and of exactly the sort, as the government needs.

The forty local Technology clubs have already organized to look up and run down men whose expert services are needed, to study local problems in

manufacture and food production, and to act as feeders to the main committees in Cambridge and Washington.—*Boston Herald*.

Standardization of educational methods in the state was urged by Frederick P. Fish, chairman of the Massachusetts Board of Education, and member of the M. I. T. Corporation, in an address at the Tech and Education banquet which marked the close of the first day's proceedings of the 85th annual convention of the American Institute of Instruction and the third annual conference of School Administrators of Massachusetts.

The conference, as well as the dinner, was held at Technology. The speakers also included James P. Munroe, secretary of the Technology Corporation.

The principal speaker of the evening was Mr. Fish. He deplored the fact that at present there is no system of education standards in New England.

He urged the adoption of standards, which will prevent the chaos now confronting the board when analyzing the methods of teaching in different cities and towns. He said what the state badly needs is the standardization of teaching methods and subjects.

Mr. Monroe, after welcoming the delegates, alluded to what the Institute stands for. He mentioned among other things service, and said that the great test in this war will be that of service.

The war, he said, would put a severe test on education in this country. He declared that the test will come when the draft is made to see whether among aliens, their schooling instilled in their minds sufficient patriotism for them to be willing to serve their country, without causing trouble.

He said that the war will also serve to bring about readjustment of courses of study in certain schools.—*Advertiser*.

When the plan was announced recently that this country could turn out a thousand ships per year to replace vessels destroyed by submarines, the general public applauded the proposal without giving much thought to the details involved. It has probably escaped the attention of the casual reader that one of the principal obstacles yet to be overcome is that of providing sufficient crews to man these boats. This, however, is a matter that has been given a great deal of consideration, and we have on the Shipping Board in addition to the director of construction and director of transportation, a director of recruiting, whose task it is to provide officers to operate the vessels.

Each ship will probably require four deck officers, a captain and three mates; in the engine room there will have to be a chief engineer and three assistants, making a total of at least eight trained men per ship. The number would vary, of course, with the size of the vessels, but this may be

taken as a standard. These men will be needed soon. Inside of a year we must have 8,000 trained men to operate the new ships. In addition to these ships there are many, now nearing completion, that are being built for other governments and for private concerns, which will be taken over by our government. This will raise our requirements to between 9,000 and 10,000 men.

The plan of the director of recruiting is to establish schools of navigation along the New England coast. There are several existing schools in New York so that this city is not now included in the campaign. As the work develops, schools may be established farther down the coast of the Atlantic, and then in the Gulf ports, and finally on the Pacific Coast. At these schools the plan is to enroll seamen; that is, men with considerable maritime experience, but who either have no knowledge of navigation or else have been so long removed from actual contact with navigation as to have become rusty in its practice. The schools are to be established right where the seamen are to be found. Thus it will be possible for the men to spend their evenings in these schools, while conducting their daily work at the same time. After serving a course in the school of navigation the men will be entered as petty officers on coastwise vessels and vessels sailing to South American ports or to lands that are not embraced in the submarine zone. Similarly the engineers will be educated in well-equipped schools, and as they are graduated will be given practical training as assistant engineers on coastwise vessels. Thus they will be thoroughly equipped for service across the Atlantic.

The result of this training will be the establishment of a fine body of trained men whose services to our country and to our allies will be immeasurable during the present war, and who, after the war is over, will maintain an efficient American merchant marine.—*Scientific American.*

PATRIOTIC ECONOMY

EVERETT MORSE, '85

The necessity for patriotic economy will be evident if we think of finance in terms of labor instead of in dollars. We have our natural resources and we have our capital invested in the tools of production, but even with these facilities our productive capacity is limited by the supply of labor. By labor we mean the personal service, whether of brain or of brawn, of the forty million of us who are engaged in gainful occupation.

To carry on the war we shall spend at least twelve billion dollars per year, or thirty-three million dollars per day. This is as much as Great Britain is spending and fifty per cent. more than Germany is spending, and the figures are so huge that few of us appreciate what they really mean.

Europe is already so deeply in debt that she may never be able to pay, and we are on the road to the same condition. Balance of trade statistics indicate that we have made an extra profit from foreign business since 1914 of five billion dollars, or about two billion dollars per year. The effect of this in enriching the country is suggestive of the result of three years of impoverishment at the rate of eight billion dollars.

Our normal annual savings are about four billion dollars, and not only will our war expenditure absorb all of these savings, but we must find eight billion dollars in addition. During the past three years our present allies have obtained much assistance from us, but as there is no country to whom we can turn we must carry our burden alone.

Our savings go into public and private improvements, including the extension of business enterprises. These savings will not be available for war until we stop federal, state, municipal and private improvements; until we forbid all issue of securities except under federal license, following the example whereby England reduced the issue of industrial securities from \$468,000,000 in the first half of 1914 to \$11,000,000 in the same period of 1917.

The danger of a food famine has been brought home to us and we are making a real effort to reduce consumption, though our efforts to increase production are being seriously handicapped by the high price of labor.

Immediately after war was declared the President warned the country that everyone should produce more and consume less. The idea that business was to be suddenly reduced by a wave of economy was a shock to business men and the cry "business as usual" was spread over the country and caused the President's appeal to be forgotten. Not only are people spending as usual, but many conscientiously believe it their duty so to do.

Every dollar spent means the consumption of labor. We shall not be far wrong if we say that every four dollars spent consumes a day's labor, and that every twelve hundred dollars spent consumes a year's labor. A war expenditure of twelve billion dollars will consume the labor of ten million people; twenty-five per cent. of our total labor supply. This added demand comes during the greatest labor famine in our history, which has increased commodity prices eighty-five per cent. since 1914.

We have reached a point where the increasing demand reduces the efficiency of

labor and thereby reduces the supply, and we are facing a further rise in commodity prices, perhaps to exceed present conditions in England, where prices are up one hundred and twenty per cent.

The most effective remedy is to decrease consumption, and it is imperative that every one should make a drastic reduction in personal expenditures. The example must be set by the rich, but every man, woman and child must be drawn into the movement until patriotic economy becomes the greatest fad the country has ever known.

Our young men who try to avoid military service are "slackers." Every one of us who will not economize to help the war is a "slacker." Who will fail to spend less when he realizes that every four dollars saved is a day's labor contributed to the war? It is not a question whether your income justifies an expenditure, but whether the country can afford to let you spend.

Even to prevent hardship we have no right to spend to keep people in their usual employment, for only by a process of readjustment can we obtain the labor necessary for the war. Already the Government is resorting to price fixing and other dangerous experiments, because we can no longer submit to the law of supply and demand. We cannot increase supply, but we can so reduce demand that the available supply shall meet our needs and so keep prices within bounds.

With two million men in cantonments or in tents there are houses enough for the rest of us. We can reduce the famine in wool and cotton by wearing our old clothes. We can stop the purchase of automobiles, so that the factories and their operatives may produce motor trucks, aircraft and munitions. We can use the automobiles we now have less freely and save gasoline. We can reduce the number of our servants and let our wives and daughters do more of the work. We can do away with the wastefulness of charity entertainments if we go less to the theater and give the money saved to charity.

The real horrors in Europe are not on the firing line, but amongst the civil population, who are pinched for the necessities of life and in many cases dying of starvation. If each one of us is not willing to make sacrifices for the war, Germany was right when she characterized us a "Nation of Slackers."

PUBLICATIONS OF THE INSTITUTE STAFF

C. A. ADAMS. (Chairman) Standards Committee of American Institute Electrical Engineers. *Standardization Rules of the American Institute of Electrical Engineers.* Pp. 115. October, 1916.

FRANK AYDELOTTE. English and Engineering. Pp. 400. McGraw-Hill Book Co., New York. January, 1917.

FRANK AYDELOTTE. Article on Elementary English Course at M. I. T. *Engineering Record.* February 24, 1917.

ROBERT PAYNE BIGELOW. Partheogenesis. *Reference Handbook of the Medical Sciences.* Third Edition. Vol. 7. P. 61-64. Illustrated. 1917.

ROBERT PAYNE BIGELOW. Reproduction. *Reference Handbook of the Medical Sciences.* Third Edition. Vol. 7. P. 524.

ROBERT PAYNE BIGELOW. Reversion. *Reference Handbook of the Medical Sciences.* Third Edition. Vol. 7. Pp. 558-559.

ROBERT PAYNE BIGELOW. Segmentation of the Body. *Reference Handbook of the Medical Sciences.* Third Edition. Vol. 7. P. 704. 1917.

ROBERT PAYNE BIGELOW. Segmentation of the Ovum. *Reference Handbook of the Medical Sciences.* Third Edition. Vol. 7. Pp. 704-707. 1917.

ROBERT PAYNE BIGELOW. Sex. *Reference Handbook of the Medical Sciences.* Third Edition. Vol. 7. Pp. 721-724. 1917.

HARRY E. CLIFFORD. Inclosed Fuses. Pp. 2. Bureau of Standards. December 1, 1916.

HARRY E. CLIFFORD. Report of Committee on Relations with Educational Institutions. 40th Convention. National Electric Light Association. May, 1917.

HENRY FAY. Microscopic Examination of Steel. John Wiley and Sons, Inc. New York.

HENRY FAY. Erosion of Guns. American Institute of Mining Engineers. February, 1917.

CARL R. HAYWARD. The Effect of Sulphur on Low-Carbon Steel. *Bulletin American Institute of Mining Engineers.* No. 118. P. 1841. Pp. 10. Illustrated. October, 1916.

CARL R. HAYWARD and S. S. RAYMOND. Effect of Time in

Reheating Hardened Steel Below the Critical Range. *Bulletin American Institute of Mining Engineers.* No. 122. Pp. 8. P. 277. February, 1917.

HEINRICH O. HOFMAN. Lead. In *American Year Book for 1916.* Appleton. New York. 1916.

HEINRICH O. HOFMAN. Metallurgy of Lead in 1916. *Engineering and Mining Journal.* Vol. 103. P. 49. 1917.

HEINRICH O. HOFMAN. Recent Improvements in Lead Smelting. *Mineral Industry.* Vol. 25. 1916.

WILLIAM HOVGAARD. Submarine Boats. *Transactions of the Royal Canadian Institute.* Pp. 20. P. 119. Illustrated. Toronto.

WILLIAM HOVGAARD. Some Strategical Sketches. *United States Naval Institute Proceedings.* Vol. 43. No. 2. P. 233. Pp. 11. February, 1917.

WILLIAM HOVGAARD. Buoyancy and Stability of Submarines. *Transactions.* Institution of Naval Architects. Vol. 59. Pp. 16. Illustrated. London. 1917.

R. G. HUDSON. Assisted by J. Lipka, H. B. Luther and Dean Peabody, Jr. *The Engineers' Manual.* Pp. 310. John Wiley & Sons. New York. April, 1917.

R. G. HUDSON and J. LIPKA. A Manual of Mathematics. Pp. 130. John Wiley & Sons. New York. April, 1917.

R. G. HUDSON and J. LIPKA. A Table of Integrals. Pp. 24. John Wiley & Sons. New York. April, 1917.

FREDERIC H. LAHEE. Appendix XI to "Field Geology." Pp. 20. Illustrated. McGraw-Hill Book Co. New York. June, 1917.

ERNEST F. LANGLEY. Le Mariage de Figaro (Beaumarchais) edited with Introduction and Notes. Vol. 10. Pp. XLIX + 261. Illustrated. Size 5 x 7. New York, Oxford Press. Reviewed in the *Nation*, May 3, 1917, and in *Modern Language Notes.* Vol. 32, p. 383. June, 1917.

J. LIPKA. Engineer's Manual. Mathematics. Pp. 1-67. John Wiley & Sons. March, 1917.

W. V. LYON. Determining Phase Rotation. *Electrical World.* Vol. 69. P. 968. Pp. 1. Illustrated by Diagram. May 19, 1917.

F. J. MOORE and RUTH M. THOMAS. The Constitution of Xanthogallol. *Journal of the American Chemical Society.* Vol. 39. P. 974-1011. May, 1917.

LEONARD M. PASSANO. The Economic Efficiency of a Workman. *Technology Monthly*. Vol. 3, No. 8. March, 1917.

LEONARD M. PASSANO. False Premises in the Educational Argument. *School and Society*. Vol. 5, No. 118. March 31, 1917.

PERCY G. STILES. Recent Progress in Physiology. *Boston Medical and Surgical Journal*. Vol. 176. P. 602. Pp. 5. April 26, 1917.

M. DEKAY THOMPSON. Metallurgical and Chemical Engineering. Vol. 15. P. 677. Pp. 2. December, 1916.

M. DEKAY THOMPSON and C. N. RICHARDSON. An Investigation of the Brittleness Produced in Steel Springs by Electroplating. *Metallurgical and Chemical Engineering*. Vol. 16. P. 83. January, 1917.

M. DEKAY THOMPSON and O. L. MAHLMAN. The Electrolytic Pickling of Steel. *Transactions of the American Electrochemical Society*. May, 1917.

M. DEKAY THOMPSON and T. C. ATCHISON. The Production and Properties of Magnetite Electrodes. *Transactions of the American Electrochemical Society*. May, 1917.

M. DEKAY THOMPSON and L. R. BYRNE. The Current Efficiency in charging the Edison Storage Battery. *Transactions of the American Electrochemical Society*. May, 1917.

C. E. TURNER. Maine's New Health Law. *American Journal of Public Health*. Vol. 7, No. 5. P. 502. Pp. 3.

ROBERT SPURR WESTON. Disposal of Wool Scouring Waste. *Textile World Journal*. Vol. 52. P. 201. Pp. 3. Illustrated. Size 10 x 14. January 13, 1917.

ROBERT SPURR WESTON and C. E. TURNER. Studies on the Digestion of a Sewage-Filter Effluent by a Small and Otherwise Unpolluted Stream. Vol. 10. Pp. 96. Illustrated. 9 Plates. Size 8 $\frac{3}{4}$ x 5 $\frac{7}{8}$. Sanitary Research Laboratory of M. I. T. Cambridge, Mass. April, 1917.

GEORGE C. WHIPPLE. State Sanitation; A Review of the Work of the Massachusetts State Board of Health. Pp. 14 + 377. Illustrated. Size 9 x 6. Harvard University Press. 1917.

FREDERICK S. WOODS and FREDERICK H. BAILEY. Analytical Geometry and Calculus. Vol. 1. Pp. XI + 516. Illustrated. Size 5 $\frac{1}{2}$ x 8. Ginn & Co., Boston, Mass. March, 1917.

BOOK REVIEWS

THE NATURE OF MATTER AND ELECTRICITY. An Outline of Modern Views. By Daniel F. Comstock, M. I. T. '04, S. B., Ph. D., and Leonard T. Troland, M. I. T. '12, S. B., A. M., Ph. D. New York: D. Van Nostrand Company, 1917. 8vo.; 225 pp.; illustrated. Price, \$2 net.

There are in existence numerous works that deal with phases of this subject, but until the present volume appeared there was none that dealt with the whole theory of matter and energy in an elementary and popular way with the aim of revealing to the reader the essential unity that underlies apparently diverse physical sciences. An imaginary microscope of enormous power is postulated, and by its aid the reader is given at least a symbolical idea of the arrangement and relative size of the atoms and molecules of various substances. Of the two parts into which the volume is divided, the first presents a broad, schematic view of the structure of the material universe as modern science has come to visualize it; the second part covers the same field, but with more attention to detail. If only the fundamentals of the modern theory are required, Part I will provide a clear general understanding, the more conscientious student will find in Part II a richer knowledge and much valuable reference material. As a timely outline and summary of present-day conceptions, the work will be found to be dependable and illuminating. *Scientific American.*

PLANE AND SOLID GEOMETRY. By Webster Wells, M. I. T. '78, S. B., and Walter W. Hart, A. B. New York: D. C. Heath & Company, 1916. 8vo.; 467 pp.; illustrated.

Wells's "Essentials of Geometry" is the basis of this text, in which great care has been taken to align the methods of the older work with modern scientific and pedagogical modes of thought. Each section first presents the fundamentally important theorems which naturally constitute a minimum course; these are followed by supplementary applications, from which a selection may readily be made. Most of the propositions are succeeded by well-chosen exercises, quite sufficient for a shorter course. In the chapters devoted to solid geometry the mensuration theorems for the common solids are given first place. This emphasis, and the inclusion of certain natural applications of solid geometry in the exercises, give the work a practical trend. *Science.*

STUDIES ON THE DIGESTION OF A SEWAGE-FILTER EFFLUENT BY A SMALL AND OTHERWISE UNPOLLUTED STREAM. By Robert Spurr Weston, M. I. T. '94, and C. E. Turner; with Introduction by W. T. Sedgwick. Contributions from the Sanitary Research Laboratory and Sewage Experiment Station. Massachusetts Institute of Technology, Cambridge, Mass. Paper; 6 x 9 in.; pp. 96; maps, diagrams, halftone and other colored plates. \$1.

A biological and chemical study of the effect of discharging treated filtered Brockton sewage into the Coweeset "stream." Brockton has a population of 65,000.

The stream has a flow of 500,000 to 25,000,000 gal. a day. The studies covered the two years ended Feb. 1, 1916.

The pamphlet announces the death of the anonymous donor who made possible the valuable research work reported in this and earlier volumes. It also discloses the fact that this donor "was a lady, fond of books, of music and of painting." *Engineering News Record.*

HANDBOOK OF SHIP CALCULATIONS, CONSTRUCTION AND OPERATION. By Charles H. Hughes, M. I. T. '00. D. Appleton & Company.

Charles H. Hughes, '00, has recently contributed to the long list of technical texts, a book entitled "Handbook of Ship Calculations, Construction and Operation." The volume is the culmination of considerable research work and collecting of material by its author, and now stands as the most complete of its kind ever published.

The first four chapters of the book deal for the most part with calculations which include all necessary tables and formulae, definitions, strength of materials, etc. The next five cover thoroughly the construction and equipment of all types of merchant and naval vessels, while the last chapter is given up to a discussion of ship operating.

The work is especially valuable to ship owners and operators, although it contains material which make it an important addition to the library of officers, engineers, underwriters, designers of warships, and students of naval architecture and marine engineering. The contents treat with both the marine and the naval aspects so that it serves the same purpose for both the civilian and the naval man. The book which has over one thousand pages and is illustrated with over 120 photographs and diagrams, is published by D. Appleton and Company and sells for \$5.00 a copy.—*The Tech.*

THE HIDING PLACES. By Allen French, M. I. T. '92. 1917.

Allen French, author of *The Hiding Places*, is a Boston man, graduated from the Massachusetts Institute of Technology in 1892 and from Harvard in 1894 and was for five years instructor in English at Harvard until 1913. Mr. French has had two main occupations—farming and writing books for boys and girls. Perhaps there is a sort of picturesque alliance between the two. He has written a number of juvenile historical books, such as *The Colonials*, *The Heroes of Iceland* and *The Siege of Boston*. In addition to these he has not failed to give evidence of his farming experience. *How to Grow Vegetables* appeared in 1911 and in 1914 *The Beginner's Garden Book*.

In *The Hiding Places* we again find the distinct suggestion of his farming career. The scene is laid on an old New England farm of very much the sort we imagine Mr. French himself owns. The story is one of feud and love with a good deal of mystery about it and a lot of New England.—*The Bookman.*

NEWS FROM THE CLASSES

1868.

ROBERT H. RICHARDS, Sec., 32 Eliot Street, Jamaica Plain, Mass.

The secretary will write a personal note to his classmates for class news for this month.

I am spending the summer with Mrs. Richards at Randolph, N. H., at our little camp.

We are as anxious as anyone to be of service to the Allies in the terrible struggle they are in to rid the world of the domination of tyranny. My age and limits of strength rule out all the athletic things I used to be skilled in. My specialty of ore dressing is not a thing that is wanted in the struggle in Europe. In all the other lines of engineering there are many younger men who are better able than I for rendering aid. I have therefore adopted a simple mechanical thing that I can do and make some progress towards helping the Allies.

Mrs. Richards and I have a machine and are knitting stockings for the soldiers for which we are informed that there is an endless demand. Since we began in May we have knitted 100 pairs and we are knitting a pair every day, that is including those that our pupils knit.

We are finding great pleasure in the acrostic that Mrs. Ellen H. Richards and I worked out, namely, FEAST, which, being elaborated, is Food, Exercise, Amusement, Sleep, Task or Work. When one feels as if he had lost his last friend and is blue he should call the roll of the acrostic and he will find at once along which line he is sinning. The lack of exercise or amusement are the two commonest lines of failure; if they are cared for, the food, the sleep, and the task generally fall into line all right.

I see my friend asking how knitting stockings can be amusement and work combined. It is this way: if I play dominoes I have fun, but what have I to show for the time spent? If I play sock, I have a sock to give the Allies. And I am always playing against Bogey in the time spent. Bogey with Mrs. Richards and I knitting together is 34 minutes for a sock; Bogey for myself alone is 44 minutes. We are always trying to lower these records, and we find plenty of hazards to overcome and give zest to the fun.

Mrs. Richards and her friend, Miss Braman, are helping in the making of surgical dressings at Randolph and the summer visiting ladies are taking great interest in the work.

We are doing a little in the gardening line, on peas, beans, potatoes, and corn, to help swell the crop yield in the United States for this summer. We may have enough to carry us through the winter leaving what we should purchase for export.

We have a noble flag pole on a high point near our camp; the flag we try to hoist with the sun and lower with it as the flag of our country should be treated.

We have one amusement which we enjoy every pleasant afternoon for about an hour. It is archery; we find we can get a lot of fun with it, for ourselves and our friends.

1870.

CHARLES R. CROSS, *Sec., Mass. Inst. of Tech., Cambridge, Mass.*

Our classmate, Walter Clark, died at his residence in Bronxville, N. Y., on Monday, March 12, 1917. He was born at Brooklyn, March 9, 1848, and was a student in the Institute from 1866 to 1869, leaving at the end of the latter year. He married on June 15, 1876, Miss Jennie Woodruff Clark who survives him, together with a daughter and four sons.

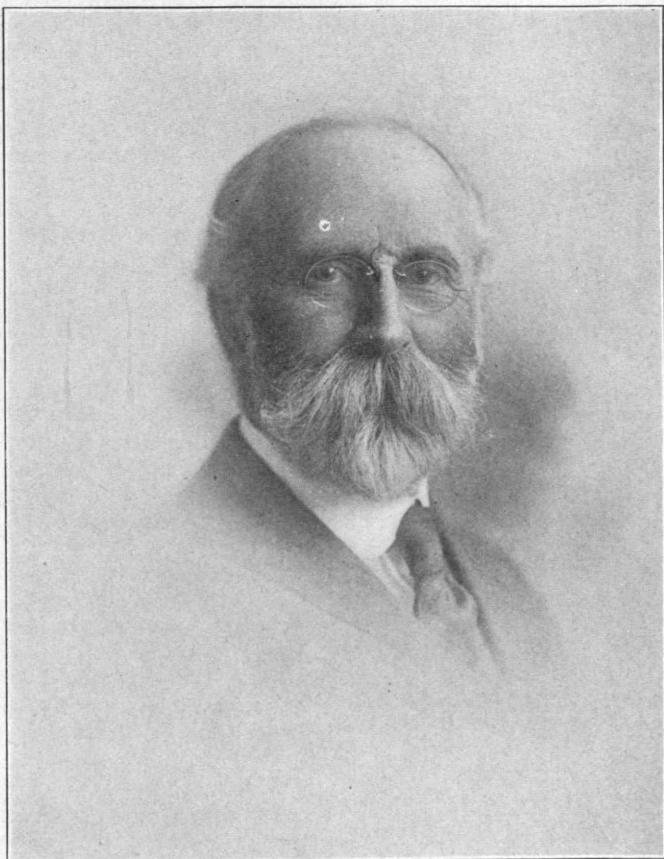
The principal events of his subsequent life cannot better be told to his friends than by printing in full the following letter written in reply to the secretary's notice of the class meeting and other gatherings on the occasion of the dedication of the new Institute buildings a year since. It was headed: The Century Association, 7 West Forty-third Street:

I have received with pleasure your communication expressing an interest to know of my wanderings and undertakings since the early days of our Tech association. Briefly, my first departure from home surroundings and teachings was in a trip around the world in 1870, occupying sixteen months and resulting in a broad education of never ending interest and significance. On my return a partnership was formed with our fellow classmate, Daniel W. Willard, and three years of life on the western plains followed. Then came the lure of the East, rather than that of the West, of "the girl I left behind me," of home building and family: and consequent upon this an opening of the path through which by nature my thought seemed to find its readiest expression. An inborn love for the beauty and wonders of nature, a fondness for drawing, form and color, led from the pastoral and scientific into the realm of art. Through several years of drawing and modelling in clay, the fascination of color and a life out of doors determined the course of after years and wedded me to the painting of landscape. It has been a life separate and apart from the surrounding activities but I cannot look back with regret upon having made this my chosen calling. I have had the honor of having been elected to membership in the Society of American Artists, the Water Color Club, the Society of Landscape Painters, an associate of the National Academy of Design and in 1909 of having been made a National Academician. In 1901 I received the Inness Gold Medal for picture, "Gloucester Harbor," and silver medals at Buffalo and St. Louis.

In conclusion let me say that the early days and associations of the Tech have always been held in loving and grateful retrospect, that my interest in science, with its wonderful progress and future, is even keener than when working in the laboratories of chemistry and physics or wrestling with problems in higher mathematics, but as the years have passed the difficulty of serving two masters has become more and more apparent, my world has become more and more concentrated and specialized and the draft upon limited vitality more and more exacting.

It would be most gratifying to me to be present on this occasion to meet old friends and associates of the early days and it is with deep regret that I must content myself with sending the most cordial greetings and best wishes.

It was no surprise to those of the class who were at all acquainted with Mr. Clark that he should leave scientific pursuits aside and



WALTER CLARK, '70

devote his life to art, since his temperament was evidently such as might well lead him in this direction.

The standing attained by our classmate in his profession is sufficiently indicated by the simple statement of facts recorded in the preceding letter, which even his modesty cannot obscure. One of his sons, however, Mr. Arthur Clark has been so good as to furnish me with more particular information.

Our classmate early formed an intimate acquaintance with the late George Inness, for whom he acquired a high appreciation and admiration long before Inness had reached the recognized position of mastership which he later attained. He was the only pupil that Inness consented to take. But while the younger man had the utmost reverence for the older, he struck out into his own paths, picturing rather the gentler moods of nature in its everyday beauty.

Mr. Arthur Clark says that his father throughout his life used to advantage the knowledge which he gained at the Tech. He was highly inventive, devising several of the first dry-plate cameras to be constructed. His artist's easel, the "Clark easel," was admitted to be the most satisfactory in the market. "His genius for invention was of the highest order. Every instrument pertaining to his painting was of his own design and make; easel, paint-box, umbrella, umbrella anchor, stool—everything. Each one combined compactness, lightness, strength, and greater service to a degree unequalled."

Lately the demands of the times led him to turn his inventive genius to the solution of the problem of the detection of submarines. His ideas were communicated to the government and correspondence was carried on regarding them.

One of the sons of Walter Clark, Eliot C. Clark, has followed the profession of his father, and with much success, having been made an associate member of the Academy of Design at the age of thirty-five.

W. C. Dickinson called at the Institute on July 30. Mr. Dickinson is an expert in flour and a member of the firm F. W. Golke & Co. of St. Louis.

1877.

RICHARD A. HALE, Sec., Lawrence, Mass.

The month of June, 1917, has brought the fortieth anniversary of the graduation of the class of '77, and it appeared fitting that a special notice should be taken of this fact.

As the Class Day and Commencement exercises at the Institute were to be abbreviated into one day it was planned to have the various class dinners on the evening of June 12. In accordance with this general plan the class of '77 held its class dinner on that evening at the Boston Tavern Club where several of the class were members. There were ten present including Andrews, Bacon, Capen, Clarke, Everett, Fairbanks, Hale, Kittredge, Williston and

Dr. Monks. There were no special speeches and informal conversation followed.

On the next day, June 13, members of the class were invited to the Brae Burn Country Club as the guests of Charles A. Clarke. Fourteen members accepted and the golfers brought their clubs, resulting in many interesting matches. Those present were Robert D. Andrews, Francis H. Bacon, George W. Capen, Charles A. Clarke, Arthur G. Everett, Warren E. Fairbanks, Linus Faunce, Joseph P. Gray, R. A. Hale, Henry D. Hibbard, George W. Kittredge, B. C. Mudge, A. L. Plimpton, and B. T. Williston.

Among the eight who played golf, H. D. Hibbard won the first prize, Joseph P. Gray the second prize and Arthur G. Everett won the consolation prize for the largest score. The latter prize was a pair of scissors with which the winner was advised to clip his score until it was notably lower.

Lunch was served at noon at the club house with fourteen members present. The table was beautifully decorated with a cluster of American Beauty roses with silver gray ribbons, forming an excellent combination of the Institute colors. This was especially appropriate as the class of '77, through a committee of three of its members, selected the colors in 1876 and submitted them to the other classes for approval. The class records in the handwriting of the present secretary who was also secretary at that time are very clear on the subject.

An interesting event was the presentation of a silver pitcher and salver to the secretary. The inscription on the pitcher was "Richard A. Hale—June 13th, 1917,—The gift of the class of '77 M. I. T. in grateful appreciation of forty years of unremitting service." The presentation remarks were made by G. W. Kittredge, who stated that the class of '77 had the first class organization at Tech and had served as an example for other classes and referred to the secretary's labors in holding the class together. As the entire matter was a complete surprise to the secretary his few remarks were very feeble in reply and he takes the opportunity through the REVIEW to express his deepest appreciation for the remembrance and assures the class that with the coöperation on their part which has always existed there resulted the successful permanent organization which has stood the test of so many years.

A vote of thanks was passed to Mr. Clarke as an appreciation of his hospitality and a most enjoyable day for everyone.

1881.

FRANK E. CAME, Sec., Montreal Apartments, Westmount,
Montreal, Quebec.

FRANK H. BRIGGS, Asst. Sec., 10 High Street, Boston Mass.

George Mower is one of the directors of the American Chamber of Commerce in London, and is chairman of the Membership Committee.—T. Howard Barnes has just returned from Cuba and writes:

I had the pleasure of shaking hands with two of our alumni at one of the new sugar mills as I made the rounds. You find the Tech boys scattered wherever you go, and generally with nothing to be ashamed of.

With reference to the activity of different members of the class at the present time the secretary quotes the following extracts from letters:

Sargent:

Indirectly we are very busy on work that is to expedite the clothing of the new army for foreign service. A great many that have taken contracts have found that it is necessary for them to materially increase their output to meet the requirements of their contracts, in consequence whereof, we are being pushed to our greatest capacity. Most all the linters used in the making of high explosives, are treated on our machines, both by the duPonts and by the Canadian explosive companies. A large number of individual plants are also using our linter plants and selling to the duPont people. The Johnson & Johnson Company are using our machines in producing absorbent cotton, also numbers of others. We are doing our best to help out.

Lewis:

My activities in connection with the war up to the present time consist in service on a Red Cross committee and in indirect ways connected with the financing of the cause.

Collins:

I am a member of the local Committee on Public Safety and have chipped in a couple of times toward different objects.

Miss Woodward:

Through various organizations, Red Cross, M. I. T. Women's Association, Women's City Club,—I am taking, or am ready to take my share of work or responsibility. Through my school I hope to aid in construction work with children.

Munyan:

I have been making an extra effort to raise an extra amount of food products, especially grain. Corn which usually sells for \$1.50 a hundred pounds is now about \$4.00, with the outlook for a record-breaking crop only two months ahead.

Winslow:

Member of committee and contributor Eastern Yacht Club Patrol Squadron. Member Red Cross Fund team and other war charities. Helping friends and charities abroad and at home in war relief work.

Barnes:

I am taking no direct part in the war. Indirectly I am keeping at the front in ambulance work,—my only son who through defective eyesight could not pass other service, went in April to join one of the Norton Units (No. 7 of the Red Cross Ambulance Corps).

My work is so intimately connected with food and sugar supply for the company I am employed by (United Fruit Company) that I am not in a position to take time away for the country's service in a direct manner, but feel that we are doing something as it is to keep things going the best possible.

Brown:

I am not taking any actual part in relation to the war save serving on some Red Cross committees and things of that nature.

Cutler:

I have as yet taken no active part in any war work.

Maxcy:

Outside of the usual subscriptions that I can afford, my activity ceases there. Unless you count "hot air." One is bound to talk for the good old U. S. and one little knows how much or little this may benefit; much like a silent partner.

Norris:

I am not taking part in the war except as a subscriber to the Liberty Loan.

Churchill:

I have paid three subscriptions to the National Defense League, of which I was one of the original Boston members. I have subscribed twice to the local Red Cross, once to the fund to equip the State Guard of the 1st Corps Cadets, twice to the funds for the families of the artists of France.

Ayers:

I am planting a garden and bought Liberty Bonds, and paid money into the Red Cross.

Revere:

I am enlisted in the company of the State Guard of Canton as sergeant. I am also on Red Cross committee of the town, as well as secretary of the Public Safety Committee of Canton. I acted as one of the Registration Board in Canton on June 5.

I retired from the sheepskin business on last January and since that time I have been interested in farming and if you happen to be going through Canton give me a call and I will show you the prize garden in Norfolk County.

Cole:

I am in no way interested in the present European war, except as a contributor to the Red Cross, Liberty Bonds, etc. Our concern, however, is making quite a number of stoves for the army and we expect to do more of this later on."

Darlington writes from Indianapolis:

I am an invalid! This is the second summer spent *here*, because of my condition. I have subscribed to "Red Cross" \$1,000; Liberty Bonds, \$50,000 and numerous other things of the "War." What knocks me out is my "Heart."

Cabot:

I have been patrolling Boston Harbor in my seaplane since the 12th of April hunting for submarines and have been on active duty in charge of the Aviation Camp at Marblehead since June 16.

Lund:

I am not doing anything directly except to give some financial aid.

Bissell:

I am daily doing many things incident to this war but more of a private than public character. My services are, however, offered to the government in connection with the manufacture of ordnance and I am told will probably be required later on. I have two sons in the army.

Briggs:

Briggs states that he has subscribed to the Liberty Loan, Red Cross, Massachusetts Committee on Public Safety and other kindred organizations. He is on the retired list Massachusetts National Guard, but as yet has not been called into any active service. He has one nephew an assistant surgeon in the U. S. Army, and grand nephews actively engaged as follows: one is first sergeant, Troop B, Cavalry, Massachusetts National Guard; one engineer on Massachusetts Coast Patrol Boat; one at Plattsburg, and one in the Rhode Island Naval Reserve.

Mrs. Ordway writes:

The only part I am taking in the war is through the Technology Women's Association, the Red Cross Association and in the production and conservation of food.

Miss Minns:

I have subscribed to the Red Cross; and to the calls of this little town of Princeton, Mass., for drilling its young men, and its local clubs, sewing for the soldiers. Also, one of my cousins, Miss Amelia Lileston, is in Serbia, and with my help is running a tent and café for soldiers going to the front; a small orphanage, and a maternity house for refugees at Vladora, half way between Salonika and Monastir. On my farm here I have had all the planting done that can be taken care of, for extra food supply. Beans, corn, roots, but not potatoes. Of course, I have agreed to join with all that women of Technology wish to do for the war, and hold myself ready to do my bit.

Parker:

On account of a very bad attack of rheumatism I was unable to take any active part in the war. Have a garden and took a bond.

Wallace:

I am chairman of the local Committee on Public Safety, which has raised \$76,000 for the dependents of the soldiers, a member of the Finance Committee of the Boston Committee of the local Red Cross Chapter.

Miss Walker:

I am a laboring woman. Am laying aside from necessary expenses something for the Red Cross and for a Liberty Bond.

Professor Goss:

I am now located at New York. My service has embraced the following activities:

(a) I was a member of the State Commission for Illinois, which made an industrial survey of that state under the general direction of the Council of National Defense, and work was completed several weeks ago.

(b) I am a member of the Council of National Research, which was organized to coöperate with the government agencies on war problems.

(c) I am serving on a committee of the American Society of Mechanical Engineers under the chairmanship of Dr. H. H. Wiley, in an effort to secure coöperation between mechanical engineers and government agencies.

(d) Incidentally, through the activities of the office which I am here maintaining, I am doing what I can to aid the manufacturers of railway cars in increasing the service they render the government in their efforts to make good the present shortage of freight cars.

Ayers has resigned from the bank with which he was connected, on account of ill health. Ames, Rogers, Libbie, Dort, Churchill, Saville, and Darlington are also rather incapacitated for any active work. This makes us realize that we are "37 years out." Frank Chase is back in Mexico.

At a meeting of the Aero Club held at Technology, April 27, Lieutenant Godfrey Cabot, president of the New England Aero Club, addressed the members on the atmosphere as related to flying. Besides being the president of the New England club Lieutenant Cabot is actively engaged in training men to fly and is associated with the Massachusetts Aviation Training Corps which will maintain a training camp at Squantum this summer. Professor Peabody and the members of the Harvard Aero Club were guests.

Mr. Cabot in beginning said that the air was the thing that one "swims" in when flying and knowledge of the air and its constituents is therefore very essential to an aviator. "We live at the bottom of an ocean of air bounded on the bottom by the earth and the sea and on the top by an imaginary line approximately fifty miles above the earth's surface; various means have been used to determine the height to which the air extends, all of which are only approximate, the most common method and the one that seems to be most nearly right is to observe the height at which meteorites first come into view. The bottom of this ocean of air is in Palestine in Asia Minor, where the land is below sea level. A curious coincidence is that the Dead Sea which is very near this low place is made up of a very dense brine and hence has great supporting power, requiring much smaller pontoons on hydro-airplanes than are ordinarily used." According to Lieutenant Cabot, the constituents of the air have more or less to do with the way in which it acts, some even going so far as to say that each constituent acts independently, that is it acts just as if it were the only thing in the air and that the actual properties of the air are the resultant of all the various properties of its different constituents. "The air is composed of oxygen, nitrogen, argon and small amounts of various other gases and water vapor in varying amounts. The last is by far the most important constituent as far as the aviator is concerned; the amount of aqueous vapor in the air has a great deal to do with flying because it is on this that the density of the air depends. Observations of the upper air have been carried on at various times by means of box kites to which were attached recording thermometers and barometers thus enabling the observer to get the temperature and the pressure at different heights. Small balloons were also used being made so that they would explode when they reached a certain height and provided with parachutes so that the instruments would not be broken in falling. It has been found that the density of the air decreases as we get higher above the earth's surface and that the temperature also decreases, at the height of seven miles the temperature being ninety degrees below zero."

The first person to fly, said Lieutenant Cabot, was Montgolfier, a Frenchman, who made the first hot air balloon and succeeded in ascending in it. The first persons to make a successful flight in a heavier-than-air machine, however, were Americans, the Wright brothers. "It is true that others had built airplanes, that is machines which did not depend on gas or hot air as a means of support, but none of these inventions were successful, all of them resulting more or less disastrously for their makers." In connection with the invention of the airplane, Mr. Cabot also said that nearly all the inventions that had proved to be of value in war were American ones—the telephone, the telegraph, the submarine, the machine gun and numerous others. "The United States was the first nation to use the airplane for scouting purposes in warfare when in 1913 a lieutenant of the Signal Corps flew inland from Vera Cruz and ascertained the whereabouts of the Mexican camp when we were having trouble with Mexico and our forces occupied the town of Vera Cruz. Since then airplanes have been used very extensively in warfare, limited nearly altogether to scouting purposes." The dream of the aviator, according to Lieutenant Cabot, is to make a machine that will be capable of carrying a torpedo of such a size that it would be dangerous to ships; a torpedo of such a size would weigh in the neighborhood of 2,000 pounds, and at the present it is impractical to build machines that will carry so heavy a load, the reason being that in making the frames larger their strength does not increase in the same proportion as their size. As an example of this he cited the case of some huge three-plane 1,000 horsepower machines that the British government had built; they were so heavy that their own weight broke them to pieces. Several of these machines were built by the Burgess Company to order for the English government and they did not stay together long enough to be delivered. Notwithstanding, Mr. Cabot predicted that in the future three or more planes would be used to carry great weights.

The United States has been severely criticised for not building more war planes. Mr. Cabot said that this criticism was in part justified but that there were also good reasons for not doing so, the main one being that there had been no need for them heretofore because the country was not at war. Another reason is that the design of airplanes undergoes a radical change every few months so that a machine that is considered to be the best obtainable now may be obsolete in a short time, so that, if

there is no immediate need for war planes there is no need of building a lot of them which will be practically useless next year. Still another reason is the fact that the United States builds their machines much stronger than the ordinary European machine thereby giving a much greater factor of safety involving far greater cost. There is at present a great need for a lot of slow flying school machines for use in training pilots. A few fast battle planes are also needed, although not as badly as the training machines.

1882.

WALTER B. SNOW, Sec., 136 Federal Street, Boston, Mass.

Graduation day was celebrated by a joint dinner at the Engineers Club with the classes of '81, '83 and '84. Notices of this dinner brought replies as follows from members who have not been heard from for years:

From Herman H. Duker of Baltimore:

You have no idea how glad I should be if I thought it possible for me to attend dinner, June 12; as usual, business prevents. With my best regards.

From A. C. Brackett of Framingham, Mass.:

I very much regret that I could not attend the dinner mentioned on your card June 1. I cannot get off for evenings in Boston. Shall try to go down Tuesday as I have never yet seen the completed Institute buildings.

From E. R. Adams of Seattle:

Very sorry but your "dinner joint" is about 3,000 miles too far away, and not having the time nor a railroad pass must forego the pleasure. With kindest regards to the bunch who do attend.

The address of Miss Clara P. Ames has been changed to 19 Euston street, Brookline, Mass.—James P. Munroe will probably give up his permanent residence in Boston because of his appointment to the Federal Board for Vocational Education, which will necessitate his presence in Washington. The board will administer the law providing for federal coöperation with the states in establishing industrial schools. About \$1,700,000 is to be spent this year and the amount will be increased to \$7,300,000 in nine years.

Announcement was made in a previous issue of the death of Mrs. Charles Pomeroy (Margaret Noyes) Otis. This occurred on Monday, March 26, at her home at 16 River street, Boston. Her father, Henry S. Noyes, was professor of mathematics at Northwestern University. After his death she came with her mother to Boston. In 1884 came her marriage to Professor Otis of the department of modern languages at the Institute and they lived at 62 Chestnut street, Boston, until his death in 1889 left her with two sons, when she moved to Andover, Mass., and entered into its life, being especially associated with the work of Christ Church, Andover, and also with the activities of Grace Church, Lawrence, Mass., as she had been with the life of Trinity Church in Boston. She lived in Andover until 1912 when she went to Dalton, Mass.,

and made her home with her son, the Rev. Charles Pomeroy Otis; and, more recently, with her younger son, Henry Noyes Otis, Technology 1912, where she was living at the time of her death. The burial service was held at Trinity Church, Boston, the church which had seen the service of her promise in confirmation, of her joy in marriage and of her comfort in sorrow.

The services were conducted by Dr. Mann and the Rev. Reuben Kidner. At the interment, at Exeter, N. H., a few words were read by her son, the Rev. Charles Pomeroy Otis.

The class has lost a loyal member and a staunch friend in the death of Harry G. Manning, at Pittsburgh on April 24. Although he had organic valvular heart disease he had seemed much better during the past year, but a slight attack of pneumonia brought his life to a sudden though painless end. Ever since Harry with his son Edward attended the special luncheon with local class members at the Engineers Club in June of last year he had kept up an interesting correspondence with the secretary, from which quotations will be given in a later issue.

1883.

HARVEY S. CHASE, Sec., 84 State Street, Boston, Mass.

The class of '83 got together at a dinner at the Engineers Club at 7 o'clock on the evening of June 12, following the Class Day exercises held at the new Technology in the du Pont court, where the class rendezvoused. The classes of '81, '82, and '84 were also asked to join us. Twelve of the men were present. The dinner was most excellent and a pleasant evening was enjoyed.

George G. Foran has been appointed chairman of the mobilization committee of the American Society of Mechanical Engineers, which is now taking a census of its resources. The question sheet and scheme of indexing is quite similar to that of the Technology alumni questionnaire. Lester G. French, '91, editor of the society's publication, is in charge of the indexing.

H. S. C. has been called by the government through the Harvard School of Business Administration to instruct "cost inspectors" for government contracts on "cost plus profit" basis.

Harvey S. Chase & Co., C. P. A., has been called by Federal Reserve Bank of Boston to take charge of the final accounting for the Liberty Loan bonds with all the banks in the New England district.

Another member of the class has ended his journey with us in the present sphere. Harry W. Cumner died at a time when the secretary was in Chicago and he did not learn of this occurrence until after the funeral. All members of the class will remember Harry Cumner well, and we will take proper action at the next class meeting.

Harry W. Cumner, president of the Boylston National Bank, and intimately associated with various business and social activities

died May 18, at his home at 1751 Beacon street, Brookline. Mr. Cumner, although not in good health for some time, was able to attend to business and on the day before he was taken ill, presided at a meeting of the Boylston Bank directors. On his way home he stopped at the Winthrop School in Brookline, which is the headquarters of the town's branch of Red Cross activities, in which he was deeply interested. Indeed, his interest in relief work for war sufferers was broader than the local branch and it was his province to purchase supplies for the various organizations. While visiting the Brookline headquarters to make note of its immediate needs he was stricken with cerebral hemorrhage.

Mr. Cumner was born in Manchester, N. H., July 18, 1860, and was the son of Nathaniel Cumner, founder of the Cumner-Jones Company, clothing dealers, of 90 Chauncey street, which he established fifty years ago. The family came to Boston when the son was young and the latter was placed in the Institute of Technology, but left before graduation to take up a business career. He started with the Cumner-Jones Company, and when his father died he succeeded to the presidency. The house maintained a Chicago branch, known as Cumner, Jones & Co., Inc., of which he also became president and director.

Mr. Cumner was a trustee and member of the executive committee of the Home Savings Bank, a director of the John Hancock Mutual Life Insurance Company, vice-president and director of the Thayer, McNeil Company, and president and director of the Frank W. Greaves Company of Minneapolis, Minn. He was a member of the Boston Chamber of Commerce, and had been a vice-president and director of the old Merchants Association before it was merged with the Chamber. His social activities included membership in the Boston Art Club, the Beacon Society, Algonquin Club, Commercial Club, Exchange Club, Brae-Burn Country Club and Boston Athletic Association. He was associated with the Masonic fraternity and held membership in many of its bodies.

The furtherance of the interests of his home town also occupied much of Mr. Cumner's attention and for several years he was chairman of the Brookline Gymnasium and Bath Commission and had been a member of the Playground Commission. He had resided in the present Brookline residence for twenty-five years and maintained a summer home at Cohasset.

Mr. Cumner's surviving family consists of his wife, who was Nellie Buckingham Pope, daughter of Edwin Pope of Boston; three daughters, Mrs. Andrew Washburn of Brookline, Mrs. August H. Vogel, Jr., of Milwaukee, Wis., and Miss Nathaline Cumner, whose engagement to Everett Pevere of Boston and Cohasset was announced two weeks ago; and one son, Prescott T. Cumner, who is planning to enter Harvard next fall. There is also a brother, Arthur Cumner of New York City.

1884.

HARRY W. TYLER, *Sec., Mass. Inst. of Tech., Cambridge, Mass.*

The annual dinner of the class of '84 was held at the club house of the Boston Athletic Association on Tuesday, June 12, the attendance including Messrs. Appleton, Bennett, Bridgman, Coburn, Dearborn, du Pont, Gill, Holder, Lull, Stuart, Ward, W. M. Whitney and Tyler.

The occasion proved of much interest to those present and notes of regret were read from many of the others, including General Weston, Colonel Lyle and Ambassador Bonillas.

It may be of special interest to the class that two of the graduating class of 1917 were Francis Victor du Pont and James J. Storrow, Jr., who was married a year ago to Miss Rotch.

In the latter part of the evening those present visited the gymnasium and the more strenuously inclined undertook, with interesting results, to show their proficiency with the once familiar apparatus of the gymnasium.

While attending the recent Washington meeting of the Society for the Promotion of Engineering Education, the secretary was gratified to find Newell among the numerous M. I. T. alumni present.

Newell and the secretary called on Bonillas, the Mexican ambassador, and were very cordially received by him and his charming family, with whom they took luncheon. Newell and Bonillas had not met since our student days; incidentally they found a common interest in discussing the possibility of such reclamation work in Mexico as that which Newell conducted so efficiently for many years in the United States.

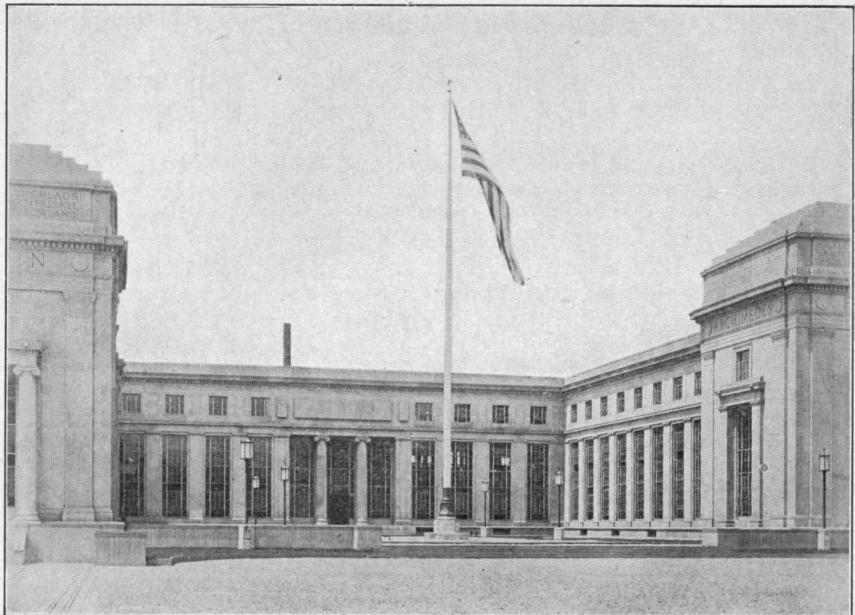
Mr. and Mrs. Herbert A. Thayer, of Harvard, Mass., announce the marriage of their daughter to Mr. Lewis Richardson Puffer, son of W. L. Puffer of '84, and a recent graduate of Cornell University.

Extracts from a recent letter from F. F. Johnson:

When Tech sent me out its schedule of questions asking as to what manner I could serve my country, I went over them carefully, and due to the fact that I had not been actively in the engineering game for thirty years, decided that the only thing for which I could probably qualify was that of chauffeur, and I so advised. I added, however, that my knowledge and experience in financing, and work of that nature, might be of some use, little knowing what I would be called on for.

To begin with, we started a campaign for increased production in this country, and I was made chairman of that committee. We assisted some of the farmers in getting seed, and, in various ways, believe we increased the acreage quite a little; also found that a great deal of alfalfa had been winter killed, and we induced the people to put up silos and put in corn for ensilage.

This matter was hardly cleaned up when I was called on as one of the members of the Red Cross Executive Committee, to raise Red Cross funds. I was made chairman of a financial committee, and we hustled about \$9,000, when we were notified of the President's appointment of the Red Cross War Fund Committee, and that there would be a drive for a larger amount made this week.



DEDICATION OF THE '85 FLAGPOLE

Then came a request from the Federal Reserve Bank, that we take hold and form an organization in this state for the sale of Liberty Bonds. I was appointed chairman of a Clearing House Committee in the beginning. The State Bankers' Convention were meeting here at the time, and they appointed me chairman of the State Committee, formed with the Clearing House Committee as a nucleus, and one of the officers of the National City Company was sent here as campaign manager. This has taken practically all of my time for a little more than three weeks until the last day or two, when now we are having the Red Cross week, provided for over the nation, and I have been obliged to give quite a little attention to that. On the whole, I think I am justified in saying I have succeeded in finding some way of service. I know that all Tech men are doing all they can to assist.

I presume that Tech will be decidedly short of men next fall as so many of the students will be training in one way and another. The training of old Tech makes very valuable young men for an emergency of this kind.

1886.

ARTHUR G. ROBBINS, Sec., Mass. Inst. Technology, Cambridge.

Professor E. F. Miller, head of the mechanical engineering department at the Institute, has not only undertaken during the summer the regular work incident on the summer school, but has developed and is administering for Mr. Henry Howard one of the sets of schools established by the United States Shipping Board for the manning of the merchant marine that is to be built. Professor Miller's specialty in these schools has been the outlining of the curriculum and the direction of seven schools for the conversion of land engineers, locomotive and stationary, into men competent to secure licenses for the management of the marine engine room. These schools are at the Institute, Stevens Institute, Case School of Applied Science, Johns Hopkins, Armour Institute and Washington University on the West Coast.

Miller has just been made a member of Autogenous Welding Committee of the American Society of Refrigerating Engineers. The purpose of the committee is to aid in the development of the art of welding, particularly in its application to pressure vessels.

Edward Everett Higgins died at his home in Clinton, Conn., on June 20 last. He entered the Institute from Chelsea, Mass., where he was born on April 4, 1864. After graduating from the electrical engineering department he spent a number of years in electrical and street railway work. Later he was connected with the *Street Railway Journal* of New York City. At the time of his death he was vice-president and treasurer of the Moore, Cottrell Subscription Agency.

With the object of retiring from some of his activities in 1911 he bought a farm in Clinton, Conn., where he spent the greater part of his time in transforming it into a model country place and stock farm.

He was greatly interested in the public affairs of the community, and, up to within a few days of his death, he was actively engaged in advancing preparations for war.

He is survived by his widow and two sons, Philip D. Higgins of the U. S. Signal Corps and Austin D. Higgins of the class of '20, M. I. T., who is a lieutenant in the Marine Reserves.

The Secretary of War has authorized the following statement:

By direction of the President certain plants will be immediately constructed for the production of nitrates from atmospheric nitrogen. The plants to be constructed do not involve the use of water power, but the total expenditure involved in these projects is about \$4,000,000. Nothing further can be said at this time about the process or the location of the works which are to be constructed. Of the total amount appropriated by Congress, namely, \$20,000,000, substantially \$16,000,000 remains undesignated as to its expenditure by the President.

Prof. Arthur A. Noyes is a member of the committee which is studying this problem.

1888.

WILLIAM G. SNOW, Sec., 24 Milk Street, Boston, Mass.

The degree of doctor of science has been conferred by Dartmouth College on Allen Hazen.—Henry J. Horn is one of the railroad experts engaged in the task of getting order out of chaos in the Russian railway situation.—Collins and Snow are members of and drilling with the Newton Constabulary.—Edward P. Quigley is now located at 1401 American Trust Building, Birmingham, Ala. His specialty is land titles.—George C. Scales of the United States department of Public Roads has shifted from the South where he has been in charge of road building for several years to Minneapolis, Minn., where his office is in the Post Office Building.—Addison Nickerson is at Brown Mills, N. J., in charge of the building of a large summer colony near Barnegat Bay.—C. Leonard Brown has removed from Boston to 29 South street, Southbridge, Mass.—Stone and Webster are busy erecting a large shipbuilding plant near Philadelphia and several groups of buildings for the government where rush work is necessary.—Among civilian engineers engaged for water supply, sewage disposal and similar work, is Allen Hazen, at Wrightstown, N. J.

1889.

WALTER H. KILHAM, Sec., 9 Park Street, Boston, Mass.

The following is from the Boston *Herald* of May 27:

Henry Howard of Boston and Brookline, vice-president of the Merrimac Chemical Company, has been appointed director of recruiting for the United States shipping board and is to conduct from Boston a nation-wide campaign for enrolling and training officers for the 1,000 cargo boats to be built by the government.

After a trip to Washington he will take up his quarters, this week, in the custom house tower. In connection with his work the Massachusetts Institute of Technology is to conduct, in a number of coast and lake cities, schools of navigation where candidates for the merchant marine will receive intensive training.

One of Mr. Howard's most striking qualifications for his task of helping to defeat the U-boat is that till the war, when he allowed his membership to lapse, he was a member of the Kaiserlicher Yacht Club, Germany. He has long been active in international racing and still belongs to the Royal (San Sebastian, Spain), New York and Eastern Yacht clubs. John Howard, one of his Marblehead ancestors, fought in the webfoot regiment which ferried Washington's army across the Delaware.

Chairman of the executive committee of the Manufacturing Chemists' Association of the United States and first chairman of the New England section of the Society of Chemical Industry, he is a member of the acid committee of the Council of National Defense, the American Institute of Chemistry and American Chemical and Electrochemical Societies and the corporation of the Massachusetts Institute of Technology. He was a member of the state commission on workmen's compensation and is president of the Boston Dwelling House Company and vice-president of the Massachusetts Employes' Association.

Born in Jamaica Plain, July 5, 1868, he was married in 1896 to Miss Alice Sturtevant of Newport, R. I. They have four children.

The *Transcript* of May 19 contained the following:

With five company leaders named and the sixth company recruiting officer at work, the organization of the Fourth Reserve Engineer Regiment being raised in Boston for railway work in France is rapidly gaining headway. The New York, New Haven & Hartford announced last night that Louis deB. Lovett of the transportation department of the New York, New Haven & Hartford and Frank P. Paten, general yardmaster at Roxbury, had been designated as commanders of Companies E and F. The Maine Central has named James B. Norcross, superintendent of telegraph at Portland, to recruit Company C until the appointment of a commander is made.

Twenty-one recruits were obtained yesterday at the regimental headquarters in Barristers Hall, fourteen in Company A and three in Company B, both of the Boston & Maine, and four for Company D of the Boston & Albany. A medical reserve officer has been appointed for examination, pending the arrival of the regular officer. Major William P. Wooten, regimental commander, is now in Washington taking examination for promotion and will return Monday. At that time it is expected that the hunt for a camp site for the regiment will begin.

Captain Benjamin W. Guppy of Melrose, a reserve officer, has been appointed a major in the regiment (Fourth Reserve Engineers) and he probably will be given command of the First Battalion. Captain Guppy is in the engineering department of the Boston & Maine in charge of the construction of bridges and buildings.

On May 19 the house of the Hartford Yacht Club, where the twenty-fifth reunion was held, caught fire from the Fenwick Hall conflagration and was burned. The newspaper report stated that this was "a commodious structure, well furnished," although the latter statement possibly shared the current passion for news embroidery. This house had come to be something of a fixture in Technology reunions and it is to be hoped that it will be replaced by a new structure which will be in order for our fiftieth anniversary. Private advices state that the building had not been much used recently and so was sold to a "movie" company for the purpose of burning it down to get a fire scene.

1890.

GEORGE L. GILMORE, Sec., Lexington, Mass.

As your secretary was unable to attend the alumni reunion in Cleveland in April he has turned over the number of requests for a

report from the class to Frederick Metcalf and has received a letter from Metcalf giving an account of the reunion for those that were unable to be present:

"I received your letter but I am afraid I forgot to deliver your remembrances to the boys of '90 that showed up at the meeting of the Technology Clubs Associated.

"Four full-fledged men of '90 were on hand—Dodge, Fuller, Waite and Metcalf. In addition, Kreps, who entered with '87 and calls that his class, but dropped out and returned after three years and was in our class for a time; F. C. Moore, who entered with '90 but was ill during the freshman year and returned to the Institute in '91. Kreps is manager of the Empire Rolling Mills in Cleveland and Moore has moved here quite recently and established a consulting engineer's office. Baldwin is in town, chief engineer of the Variety Iron Works, but is glued to his job and wouldn't shake it even for the day. Perhaps Latta might be counted in, though he chooses to call his class '89. He didn't come to Cleveland but as one of the managers of the Goodrich Rubber Company, Akron, he entertained the visiting Tech men.

"Dodge looks the same as ever. He is building electric automobiles in Toledo, and has a son who is expecting to be called to the colors any day, having received his commission in the Officers' Reserve Corps.

"Fuller is as busy as ever and is here frequently as consulting engineer with the city sanitary engineers. He was obliged to leave before the business meeting and greatly regretted that courtesy to his hosts at the City Hall compelled him to absent himself from some of our doings to attend the season's baseball opening and the opera in the evening, at which Jonny Kilbane outpointed the challenger for the feather-weight title in ten lively rounds.

"I didn't see very much of Waite, missing connections at the banquet. He looks very much as he did twenty-seven years ago when he tore down the field with a football under his arm, and he did his first business managing on '90's *Technique* board, making the success which later led to his job as business manager of Dayton. Waite took an active part in the discussion at the business meeting, where his words received the closest attention, and he presented a printed report from the Dayton club.

"Metcalf was appointed chairman of the Ladies Entertainment Committee with instructions to pick out his committee and got it. He selected five ladies and put them on the committee with their husbands and held one meeeting, at which after talking over and deciding on what would be done and assigning each of the five ladies to separate duties the masculine members of the committee gracefully retired. Everything went off very smoothly and gracefully and the ladies turned back pretty nearly half of their appropriation, which comes very near to establishing a record.

"Very sorry you couldn't come out. It was a very good meeting. You would have enjoyed it and we certainly would have enjoyed having you here."

The Washington committee engaged in drawing up standard plans for cantonments and government buildings includes George W. Fuller.

Darragh de Lancey, president of the Waterbury Council of Boy Scouts, was one of the prime movers in the subscription list for the Liberty Bonds in Waterbury, Conn. He is a member of Division No. 2 of the District Board of Connecticut for the final appeal for the men drawn in the draft. A card was received in July from him telling us he was on an auto trip through Maine to the Rangeleys and for the moment was stopping at Poland Springs.

While your secretary was on a week end visit in Connecticut in June he had the pleasure of a call from Darragh and only regretted that there was not an opportunity for more time together.—At the Speakers' Training Camp for Education in Patriotic Service at Chautauqua, N. Y., July 2 to 7, C. W. Rice spoke on the Speakers' Training Camps, of which Rice is a member of the committee. This is a conference of organizations engaged in patriotic education under the auspices of the National Security League.—In June a card was received from George A. Packard regretting his inability to be present at the Tech Commencement this year. At the moment he was in Colorado on mining duties.—George W. Fuller is one of the expert engineers who have volunteered their services to the government for the erection of the army cantonments for the draft army. These engineers are serving without pay and are acting with Col. T. A. Littell of the quartermaster corps.—Miss Lois L. Howe in April was elected president of the Boston Women's Club.

Miss Howe is senior member of the firm of Lois L. Howe & Mannings, architects. She is a member of the council of the School of the Museum of Fine Arts, one of the board of governors of the Copley Society of Boston, and a member of the council of the Society of Arts and Crafts.

She was a charter member of the Business Women's Club, a director on its first board of management, and the architect who remodelled the clubhouse. Since 1914 she has served on the Social and Art committees.—Schuyler Schieffelin is treasurer of the New York Surgical Dressing Committee at 19 East 59th street. In the month of May, through this committee, there were shipped to the Allies, 99,085 surgical dressings. In addition to requests for surgical dressings and ether, the committee has a number of appeals for hypodermics and needles, pajamas, hospital shirts and socks, and they are doing a great deal of good work.

In the Boston *Herald* of June 2 a photo appeared showing a group of the British and French Scientific Mission at Washington, and in the group was our classmate, Dr. George E. Hale, who is chairman of the National Research Council.

In the June *Scribner's* was an article by Hale on "Men of Science in our War."—In June, A. H. Rogers left for a business trip to California.—C. W. Rice is a member of the Committee on Patriotism Through Education.—Prof. W. Z. Ripley of Harvard is on the sub-committee of the Council of National Defense for Mediation and Conciliation.—Edwin F. Dwelley is one of the prime movers in the formation of the Society of Stockholders of Gas and Electric Light Companies in Massachusetts, and holds the position of general secretary. The object of this society is to present the stockholder's position before the Gas and Electric Light Commissioners and the General Court when necessary.—Mr. and Mrs. J. L. Batchelder of Seaver street, Brookline, and their daughters, the Misses Sabra and Rosamond, are to spend the entire summer at their suburban home, devoting themselves to Red Cross work in which they are vitally interested. The Batchelders have placed their residence, "Edgemont," which has a breezy and lofty situation on Fisher Hill, at the disposal of the Red Cross and will vary their program with short automobile trips and occasional visits. An item of interest from a Boston paper follows:

Mr. and Mrs. John L. Batchelder of 80 Seaver street, Brookline, have announced the engagement of their daughter, Sabra Foster, to Bartlett Harwood, Harvard, '15, son of Mr. and Mrs. Sydney Harwood of Newton. Miss Foster is the granddaughter of the late Joseph Huntington White and a sister of Rosamond Batchelder. She is a member of the 1914 Sewing Circle of the Vincent Club. Harwood is a member of the the Hasty Pudding and Delphic clubs. He rowed on the 1912 freshman crew and on the varsity crews the next three seasons, and is now a member of the Harvard Graduate Rowing Committee.

Under date of April 16 a card was received from John Balch Blood, passed by censor, stating that he was well. John is in the Naval Service and his present whereabouts we regret we have been unable to ascertain.—C. C. Babb's address is now reported as Rhodiss, N. C.—A marriage was reported at the Gotham Hotel, New York, on April 25, of Miss Isabel Walmsley, daughter of Mr. John Sargeant Walmsley, of Baltimore, Md., and Mr. John Charles Eugene de Bullet, of Baltimore. We are wondering if this is the Adonis of the class who was with us in our freshman year and from whom we have not heard since.—Ripley is at present engaged in railway investigation for the government. We are wondering if Billy is riding under the cars on the trucks, sleeping in the caboose or hanging on the draw-bars.—Spaulding Bartlett is one of the Committee of Woolen Manufacturers to coöperate with the Council of National Defense in supplying army and navy needs for woolens.

As per the suggestion made at the alumni dinner in January, that it would be pleasant if those of us who reside in and around Boston could get together for an informal luncheon every month, your secretary filed a notice in the April REVIEW notifying the class of an informal gathering at the Engineers Club on Monday, June 4. It would have been in ample time, had it been printed at the usual date. Undoubtedly there was no gathering as Technology's

mobilization interests necessarily took precedence to the REVIEW and all the numbers have been delayed thereby.

The next notice your secretary wishes to put in the REVIEW he will wait until some time in the future when the REVIEW and our war interests do not conflict; perhaps then we shall be able to gather around the festive board a number of the good spirits in and around Boston.

As we are very desirous of knowing what any members of the class are doing in the way of government service, we would be greatly obliged if you would advise your secretary whether you are doing anything or if you know of any members of the class who are doing anything or any of the member's sons.

This information is desired not only to interest all of us to read in the REVIEW but for Tech and for the alumni records for after this war is over the alumni will wish to have a record giving all that has been done by its men or by men who have ever been connected with Technology.

To the Members of the Class of Ninety

Have you subscribed to *The Tech*? If not, write to your secretary at once.

The paper is now issued bi-weekly and contains all the information obtainable as to the doings of the alumni, together with what the undergraduates are doing for our government in the present crisis.

You can help very much in this little way as the expenses of publishing *The Tech* are of course much increased.

The alumni is also represented on its board by one of our members and the numbers that have been published during the past few weeks contain much of interest to all of us.

The subscription price is \$1.50 for six months and you can either send it to your secretary or you can send it direct to *The Tech* and we are sure you will be more than pleased to receive copies and to know what the Institute is doing as well as keeping you posted as to the doings of the alumni, many of whom are in active service, including some of our own class.

W. B. Poland, '90, Receives Cross of Chevalier of Legion of Honor

LONDON, July 10, 1917.—Announcement is made here that President Poincare of France has conferred the Cross of Chevalier of the Legion of Honor on W. B. Poland, who was director in Holland of the American Commission for Relief in Belgium. The cross is bestowed "in consideration of the courage with which you denounced before the German authorities and the American government the deportations made in northern France."

The medal and also the decoration recently awarded by President Poincare to Herbert C. Hoover for his work with the Belgium Commission have been accepted on behalf of the commission.

Mr. Poland went abroad in the spring of 1916 to serve on the Belgium Relief Commission under Mr. Herbert C. Hoover and he has been on active duty ever since.

1891.

FRED A. WILSON, *Sec.*, Nahant, Mass.

The annual class dinner of '91 was at the Thorndike on June 12, twenty-one men present: Alley, Bowen, Boyd, Bunker, Jere Campbell, Capen, Dart, Earl, Fiske, Garrison, F. C. Holmes, G. A. Holmes, Howard, Puchard, Ryder, Rogers, Tappan, Valliant, Westcott, F. A. Wilson, and Young.

Bowen gave a treasurer's report which he had somehow jacked up so we had money enough to buy a small Liberty Loan Bond—which of course it was voted to do.

Garrison reported on the class book—which has been abandoned because only a few dared to trust their doings to cold print. The many photos sent in to Garrison he somehow—probably through too easy-going a conscience—felt justified in asking the secretary to return. This will be done presently.

Barney Capen, always one of the faithful, is looking well—much better than we have seen him of late. Young and Cunningham both have sons at Plattsburg. Are there other sons of '91 there?—write your secretary about it and he will have them made major generals at once.

A unanimous vote of thanks was extended to the perspiring, no retiring, president, H. H. Young, and to Garrison for not publishing the class book—no, we mean for his efforts on the class book.

Stephen Bowen was chosen president, Fred A. Wilson, secretary, and Henry A. Fiske, treasurer.

Fiske, Alley, and F. C. Holmes were made a committee on outings—hope to have several this summer. One was this week, July 18, Fiske didn't mean to sign the notice as treasurer—he would really have nailed you for that \$2.00 on such an occasion. These outing notices are for getting together parties chiefly for golf, and are sent to members within fifty miles of Boston. Others will be put on the mailing list if they desire.

Billy Dart was a special policeman for war purposes, but there seemed to be no Home Guard men present except G. A. Holmes.—Leeming is now Major Leeming of the U. S. Reserve Construction, Quartermaster's Department.—Boyd is naval constructor, U. S. N., my how some of us have grown up!—Can anyone locate our Clement March? The one on the list at 24 N. Washington square, N. Y., is the same name but not ours. Where is he? And what of our T. M. Brooks? He seems to have disappeared. And who remembers W. E. Brooks, who has turned up and says he is of us? Write in now and tell us what you know.—T. S. Welch is the head of the machinery division at the Brooklyn Navy Yard, working like the —— he says. Jim Swan is moved over the Herreshoff

Works at Bristol, R. I., where he seems to have become manager, no, we don't know how.—Wetherbee's Bath Iron Works has undergone a transformation but Wetherbee still seems to be an important man in Bath and Maine.

Edward T. Root died June 20, 1917. He was born in Providence, September 23, 1867, and was a graduate of Brown University and of the M. I. T. in '91. He was a Delta Phi man, Beta Chapter. He moved to Oregon with his family in 1907 and died in Portland of that state. He left a widow and a brother but no children.

Mrs. Edward Cunningham—our Ned's widow—has given money for a fund to support Technology's camp at East Machias, Maine. This camp has been named Camp Cunningham. Mrs. Cunningham is chairman of "Friends of Technology," an organization to care for Tech men at the front and their families left behind.

We have all seen the parting shot sent out by Charlie Garrison on the late lamented class book, and containing the confession that he is a pacifist. The secretary tried, for the honor of the class, to have him omit the phrase—but Charlie was obdurate—Garrison sometimes stand quite a siege. The screams of little children drowning have not yet reached his ears from the "Lusitania," or he still believes he does not have to fight even if the other fellow wants to—otherwise stated, it takes one to make a bargain.

A few members of the class, with their wives, had a delightful time on July 18, at the Brookline Country Club. The following were present: Mr. and Mrs. H. I. Cole; Mr. and Mrs. W. L. Palmer; Mr. and Mrs. M. S. Ryder; Mr. and Mrs. H. A. Fiske; Mr. and Mrs. James Swan; Arthur Alley and brother; H. C. Bradley; L. C. Wason and Stephen Bowen.

Lunch was served at about one-thirty, in true Country Club style. After lunch golf and croquet were in order, and incidently those that think croquet is a simple matter, ought to try it on the fast Country Club green with wickets so narrow that the ball has to become oblong to get through. Mr. Wason took the ladies in hand and acted as an instructor, with, we understand, entire satisfaction.

The less said about the golf, the better. Arthur Alley's brother completed a foursome of which Alley, Palmer and Fiske were the remaining three. He showed us how it ought to be done, but we were poor scholars. Arthur and his brother acted as hosts, and it was unanimously voted that our first outing was thoroughly successful. The ladies say they want to come again.

There are all together some 80 men on the Boston and vicinity list, and some of us feel that it would be pleasant to get together once in a while, particularly in the summer time, so we will plan for similar outings in the future.

We were glad to welcome "Jimmie Swan" back to New England, and he is now located in Bristol, R. I., where he is managing

the ship yard, formerly run by the Herishoff's.—H. S. Kimball has been commissioned captain in the ordnance, reserve corps. Good for Kimball! Who next?—Lester G. French, editor of the American Society of Mechanical Engineers' publication, is in charge of the scheme of indexing for the society's census of its resources.—Among civilian engineers engaged for water supply, sewage disposal and similar work is Morris Knowles at Annapolis Junction, Md.—W. J. Roberts is serving as civilian engineer on the cantonment at American Lake, Wash.

1892.

GEORGE HUNT INGRAHAM, *Sec., 2a Park Street, Boston, Mass.*
CHARLES H. CHASE, *Asst. Sec., Tufts College, Mass.*

The committee in charge of the twenty-fifth anniversary, of which W. A. Johnston was chairman, laid out a program covering four days and which included a trip to Falmouth Heights, a sail on Vineyard Sound and a visit to the Cape Cod Canal in addition to the functions to be held in Boston in connection with the presentation and dedication of the class flag pole.

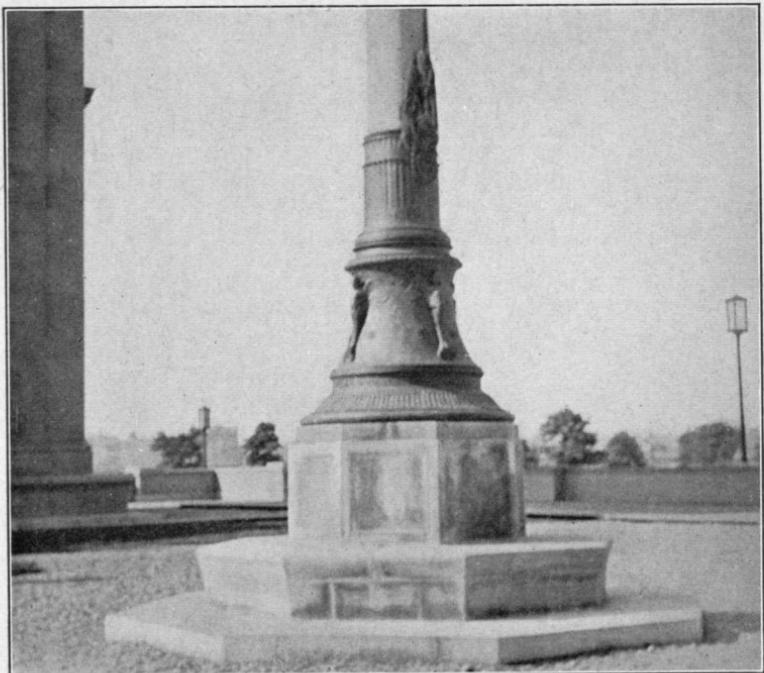
It was decided, however, when replies had been received to the first circular letter sent out that, on account of the conditions arising from the United States taking a part in the present war, on the whole, it would be best to postpone until a later date our celebration of our anniversary.

Hence, the committee arranged a program covering one day, June 12, only.

Undoubtedly the main feature was the dedication of the flag poles and flags presented to the Institute by the classes of '85 and '92. Our classmate, John A. Curtin, made a most excellent presentation speech as the representative of the class of '92. Following the dedication of the poles the members of the class that were present visited the new buildings and were much pleased with the transformation that has taken place in the last year. The evening was very pleasantly spent at the University Club, where an excellent class dinner was served. The following men were present: Ingraham, Locke, Ober, Tidd, Fairfield, Dean, Shepherd, Colby, Braman, Sargent, Fuller, Hartshorn, Burrage, French, A., Wallace, Johnston, Heywood, Nutter, Norcross, Hall, E. C., Carlson, Park, Chase, C. H., Sage, Derr, Douglass, Newman, Miller, H. S., Lukes, J. B., and Hall, J. H.

After a report by the secretary-treasurer, W. A. Johnston, as to the work that had been done in connection with obtaining funds for the "Class Gift," a report of the nominating committee consisting of G. T. Forbush, C. E. Fuller and L. Derr was heard.

The following officers were nominated and duly elected for the ensuing year: President, Charles F. Wallace; vice-president, Samuel N. Braman; secretary-treasurer, George Hunt Ingraham; assistant secretary-treasurer, Charles H. Chase. It was understood that W.



THE '92 CLASS FLAGPOLE

A. Johnston, who had served the class in the capacity of secretary-treasurer for the last fifteen years, with the exception of one year when the office was held by W. Spencer Hutchinson, was to hold said office until all work in connection with the flag poles was closed.

Votes of thanks and appreciation were passed for the services of the retiring secretary and for those of John A. Curtin for his services in connection with the dedication of the flag pole.

As things have turned out the "Class Gift" has been most appropriate, for on account of the military preparedness work that is being done at the Institute, the flags are raised each morning at 8 o'clock, the bugler sounding "Colors," and at sunset are lowered at "Taps."

The committee charged with the duty of obtaining funds for the "Class Gift" wishes to express its appreciation of the hearty support received.

There were 136 contributors to the fund, the largest amount given by any one subscriber being \$250, so that the fund truly represents a class gift.

The following is a complete list of the contributors:

Bassett	Du Bois
Bigelow	Eldridge
Blake, G. B.	Ely
Bourne	Fairfield
Braman	Forbes, Mrs. R. E.
Brigham	Forbush
Brown, Miss Bertha M.	French, A.
Burbank	Fuller
Burrage	Gill
Carlson	Gilmore
Chase, C. H.	Goetzmann
Chase, R. D.	Gray
Church	Grimes
Chute	Hall, E. C.
Clark, Miss C. M.	Hall, J. W.
Codman, S. R. H.	Harris
Cody	Hartshorn
Cogswell	Heywood
Colby	Holman, Mrs. M. L.
Coolidge, J. R., Jr.	Hutchinson
Curtin	Ingraham
Davis, C. E.	Jenks
Davis, F. I.	Johnson, J. F.
de Grasdorff	Johnston
Dean	Kales
Dennett	Kendall, W. R.
Derr	Keyes
Dresser	Knudsen
Douglass	Ladd

Lane	Pough, Mrs. A. B.
Lee	Ranlett
Lewis, D. C.	Reynolds
Linder	Rhodes
Littlefield	Robinson, D. P.
Lobenstine	Rosewater
Locke	Rowell
Look	Ruggles
Lukes, G. H.	Sage
Lukes, J. B.	Sargent
Manahan	Schlucks
Manley	Shepherd
Mansfield	Shute
Marsh	Skinner
May	Smith, A. C.
Maynard	Snow
McCaw	Stone
Metcalf	Sweetser
Meserve	Sylvester, E. Q.
Milburn	Sylvester, J. S.
Miller, H. S.	Tallant
Moody	Taylor, R. R.
Morrill	Tidd
Newman, A. P.	Wallberg
Newman, F. E.	Walker, F
Norcross	Warner
Nutter	Waterman, C. C.
Ober	Waterman, R.
Packard	Wells, C. M.
Park	Wells, E. C.
Parker	Wendell
Parrish	Wentworth
Perkins, F. E.	Wallace
Perry, H. E.	Westcott
Petree	Weis
Phillips	Williams
Pierce, A. G.	Wooffindale
Pollard	Worthington
Potter	Yoerg

As the present number of the REVIEW is to make a special feature of services at present rendered the government, we may mention as especially praiseworthy services that have or are being rendered by Leonard Metcalf who is a member of the committee charged with drawing up standard plans and specifications for cantonments and government buildings; that rendered by Theodore H. Skinner, who holds a captain's commission, and is now assistant to the constructing quartermaster at the cantonment at Wrightstown, N. J.; and that being rendered by Feland.



LIEUTENANT COLONEL LOGAN FELAND, '92
United States Marine Corps, who is second in command of the "First
To Fight" Marines overseas

The following note in regard to Feland will be read with interest by the members of the class:

Lieutenant-Colonel Feland was born in Hopkinsville, Ky., August 18, 1869. He was mustered into service May 21, 1898, as captain, Company F, Third Kentucky Infantry, and was mustered out and honorably discharged May 16, 1899. He was appointed a first lieutenant in the Marine Corps July 1, 1899, and has since served at the various posts of the Corps, and on board ships of the navy, in Cuba, Panama, the Philippine Islands, and in Santo Dominican waters; on special duty at Headquarters of the Marine Corps from July, 1901 to March, 1902, in connection with the Quartermaster's Department, thence to Annapolis, Md., to superintend the construction of the Marine Barracks at that place, and at various times has served as instructor at the Marine Corps School of Application, and the Advance Base School. He was promoted captain March 3, 1903, and major August 29, 1916, and recently qualified for promotion to lieutenant-colonel; was at Vera Cruz, Mexico, and, on April 22, 1914, participated in the occupation of that city and in the engagement incident thereto. For a considerable time he was in command of the Mining Company, Advance Base Regiment, and through his efforts that company has been brought to a high state of efficiency.

Honored by being second in command of the first regiment of U. S. Marines to carry the Stars and Stripes into battle in France, Lieutenant-Colonel Logand Feland, United States Marine Corps, a graduate of the Massachusetts Institute of Technology, has gone overseas with his regiment of sea-soldiers.

At a meeting in June of the Westinghouse Electric and Manufacturing Company's board of directors, a number of officials were promoted. Among these we find Henry D. Shute is appointed one of the vice-presidents.

The following brief sketch of his activities is taken from the *Pittsburgh Leader*:

Mr. Shute is a veteran in the service of the Westinghouse company, becoming attached to it in 1893. He studied electrical engineering at the Massachusetts Institute of Technology, graduating in 1892. Later he spent a year studying in Germany at the School of Mines at Clausthal and also in Dresden. After five years' service in the company, Mr. Shute took up work in the sales department. He was made assistant to the vice-president in 1903, which position he filled until 1910, when he was elected acting vice-president. In 1915 he was made treasurer. Mr. Shute is a member of the American Institute of Electrical Engineers, Engineers Club of New York, National Safety Council, University Club, director of chamber of commerce, and a member of the Oakmont Country Club.

1893.

FREDERIC H. FAY, Sec., 308 Boylston Street, Boston, Mass.
GEORGE B. GLIDDEN, Asst. Sec., 551 Tremont Street, Boston,
Mass.

The twenty-fourth annual meeting and dinner of the class was held at the Engineers Club, Boston, on the evening of graduation day, Tuesday, June 12.

At the business meeting, at which President Spofford presided, the principal matter of discussion was the twenty-fifth reunion, to be held next year. The sentiment of those present was decidedly in favor of publishing a class book in connection with this anniversary.

Officers were reelected for the ensuing year as follows: President, Charles M. Spofford; first vice-president, Albert L. Kendall; second vice-president, Samuel P. Waldron; secretary, Frederic H. Fay; assistant secretary, George B. Glidden.

During the evening S. C. Keith related some interesting experiences of his recent trip to China, from which he returned only a few weeks before.

Those present were: W. W. Crosby, H. N. Dawes, W. S. Forbes, G. B. Glidden, W. H. Graves, S. C. Keith, A. L. Kendall, H. A. Morss, E. S. Page, L. W. Pickert, P. D. Smith, C. M. Spofford, L. B. Stowe, S. P. Waldron.

Orton W. Albee has been commissioned a major in the Ordnance Department, Officers Reserve Corps. Albee's training is such as to make him especially useful to the government in the present emergency. In the summer of '93, immediately after graduation, he secured a position as assistant to the Inspector of Ordnance, U. S. A., at the Midvale Steel Works, Philadelphia, a position which he held until 1897 when he became superintendent of the ordnance department of the Benjamin Atha and Illingworth Company, of Newark, New Jersey, where he remained for three years, during which time his firm manufactured the guns for the equipment of the "Harvard" and "Yale" and other auxiliary cruisers of the Spanish War. Nearly the whole of Albee's career has been given to the manufacture and inspection of steel, and for the past ten years he has been in private practice as a consulting engineer in Detroit.—Albert Farwell Bemis, president of the National Association of Cotton Manufacturers, presided at the annual convention which was held at the Copley Plaza Hotel in Boston, April 25-27, and was attended by several hundred members of the organization. At the opening session President Bemis delivered a comprehensive address reviewing the abnormality of the cotton business and outlining its possible future course. At the closing session Bemis was re-elected president of the association for the coming year.—The Children of America's Fund, one of the national war relief movements, is distinctly a Technology affair. It was conceived and started in the winter of 1914-15 by Horace K. Turner, M. I. T. '95, and its object is to enlist a vast army of children of our public schools throughout the country in work for the relief, particularly, of children of the war-stricken countries of Europe. Although the individual contributions are small in amount, they represent money earned (not begged) by the children themselves. Until July, 1917, this fund was carried on by Mr. Turner in connection with the Belgian Relief Committee in Boston, but since that organization has given up its active work, the management of the fund has been taken over by an executive committee consisting of President Maclaurin, Everett Morss, '85, and Frederic H. Fay, '93, while the details of the business administration are under the management of John S. Codman, '93, who was formerly manager

for the Belgian Relief Committee in Boston.—H. M. Haven and William W. Crosby, mill engineers and architects, have removed from the Marshall Building to a new suite of offices in the Scollay Building, 40 Court street, Boston.—Arthur Farwell was brought prominently before the Boston public early in July as the composer of the music for Percy MacKaye's "Caliban," of which a number of performances were given in the Harvard Stadium by a cast of about five thousand persons. In announcing the first performance the following account of Farwell and his work was given in the *Boston Post* of June 24:

A word as to the music of "Caliban," which Arthur Farwell has composed for the masque of Percy MacKaye, which will be performed this week in Boston. The music is not intended by Mr. Farwell as mere incidental music to spectacle. It is more than that. It is dramatic commentary, intimately associated with the spirit of the play. Pageant though "Caliban" is, the entire effect is designed by composer and author to be in some sense that of a music drama as well. This although the music is necessarily cast in the form of separate and lyrical episodes. Only occasionally is the device of the leading motive employed, as in the case of the Prospero motive, which is a high trumpet call descending an octave, in its upper intervals suggesting glorious consonance and in its lower tones hideous dissonance. Other musical fragments among the most salient in the score are an American Indian theme used to give an archaic color in the Egyptian Interlude, the Gregorian chant, "Vex illa Regis," sung at the moment of the miraculous appearance of the cross in the Roman orgy; and the early English song, "Sumer ist-a-cumin in."

The orchestra, which will be conducted by Chalmers Clifton, has been carefully designed for the open. The band will number one hundred. The strings will be relatively few in number, since their resonance, so wonderful in a concert hall, expends itself so ineffectually in the open air. But the wind section will include eight horns, eight trumpets, six trombones, four tubas and the customary percussion instruments.

The introduction to the spectacle will be a summons sounded by twenty trumpets from places of vantage high over the heads of the audience. For the special interludes which Mr. Farwell has composed for the Romanic, Germanic and Italian interludes a special orchestra will play on the "Yellow Sands."

In the choral dirge, "Gray, Gray," the composer and the author have offered their observation upon the death-like and uncreative aspects of Puritanism, which, as they believe, has put a check on artistic expression from which this country is only now beginning to free itself. The New York chorus found pleasure in singing this dirge. It proved one of the most popular passages. The music aside, what will be the reception of this text on the sanctified altitudes of the Hub of the Universe?

The biggest orchestral pieces are those for the Roman orgy at the end of Act I, and "War" in the last act. The hymn of "The Field of the Cross of Gold" is closely related in its character, as in its significance, to the principal motive of Caliban, who in this pageant symbolizes the development of man from a primitive beast with lustful and selfish appetites to a man conscious of the needs of his neighbor and intelligently responsive to the evolutionary ideals of the race.

There will be more than ordinary interest in this spectacle, not only because of its immediate practical purposes, so responsive to the needs of the time, but because of the widespread interest in this city in the work of both Mr. Farwell and Mr. MacKaye.

Mr. Farwell has been since about 1909 active as a critic and a composer in New York City, but his earlier years were passed in Boston, and it was from his headquarters in Newton Centre that he pursued his propaganda in behalf of American music and American composers, which has borne such rich, though not fully recognized, results throughout the country. Mr. Farwell was born in St. Paul, and studied electrical engineering at the Technology Institute of this city. He became

interested in music. He studied harmony with Homer Norris and received criticism from Edward MacDowell. He studied in Germany under Humperdinck and in Paris under Alexander Guilmant. Returning to America, he became professor of the history of music at Cornell University from 1899 to 1901.

The American Institute of Archeology sent Mr. Farwell west in 1903 to study and prepare reports of the folk songs of the American Indian and other folk songs of Spanish California. It was after this that Mr. Farwell established his "Wa-Wan Press" at Newton Centre, which published many compositions of composers such as Henry F. Gilbert, Henry Hadley and others then little known.

Soon after Mr. Farwell became editorial writer of *Musical America*, in New York, he was appointed supervisor of the municipal concerts in that city. Mr. Farwell became interested in the pageant movement when he wrote music for pageants at Meriden, N. H., and at Darien, Conn., in 1913. He wrote music for "The God of the Mountains," a play by Lord Dunsany, and the text and music for the "D. K. E.," a masque of fraternity, which was produced in New York. The music for "Caliban" was composed in 1916. The plot, the text, the picturesque tableaux should alike be stimulating to a composer of Mr. Farwell's imaginative and idealistic tendencies.

—Frederic H. Fay has recently been made a director of the Boston Chamber of Commerce and also a director of the American Society of Civil Engineers.—Edward Page is vice-president of the New England Fuel and Transportation Company, a newly organized Massachusetts gas subsidiary. This company has taken over all the property and business of the New England Gas and Coke Company, the Boston Towboat Company and the Federal Coal and Coke Company, as well as all the property and business of the New England Coal and Coke Company, with the exception of the business of purchasing and selling coal. Page has for some time been connected with most of these organizations as vice-president or in other capacities.—Arthur S. Pevear has moved his insurance office from 30 Kilby street to 105 Water street and 4 Liberty square, Boston.—The following item concerning Cadwallader Washburn appeared in the *Washington (D. C.) Evening Star* last April:

At the Dayton Gallery on Connecticut avenue, a collection of etchings by Cadwallader Washburn will be placed on exhibition this week. Mr. Washburn is one of the most successful of our American etchers despite the fact that he is a deaf mute.

There are few indeed who have had so full a life or so interesting a career. Mr. Washburn studied first as an architect at the Massachusetts Institute of Technology. He then studied painting under Sidons, Mowbray and Chase. Later he became a pupil of Sorolla in Madrid and Albert Besnard in Paris. In 1904 and 1905, during the Russian-Japanese war, he was in Japan and Manchuria, serving part of the time as special correspondent. He has visited and etched in France, Holland, Spain, Tangiers, Japan and Mexico, as well as in various parts of this country, and his etchings are all of exceptional interest and quality. He is the son of the late Senator W. D. Washburn.

Mr. Washburn is at present in California, but his summer home is in Maine.

The following notice of the death of Philip G. Carter, appeared in the *Portland (Maine) Telegram* of May 6, 1917:

PHILIP G. CARTER

"Philip G. Carter, notice of whose sudden death in Chicago by apoplexy recently appeared, was born in Portland about forty-five

years ago, the exact date having escaped the memory of the writer, and passed his early boyhood in this city. He was the only son of Capt. Henry J. Carter and Mrs. Hannah (True) Carter, their only daughter, Clara, dying when six years of age. Captain Carter will be remembered by older residents of Portland as an ex-soldier in the Civil War, who was one of the earliest presidents of the local Army and Navy Union. After the death of her husband, Mrs. Carter removed to Malden, in the schools of which and at Holderness, N. H., Philip received his early education, finishing it by a course at the Massachusetts Institute of Technology.

After the acceptance of a position in the office force of the Winslow Brothers Company, of Chicago, one of the largest manufacturers of structural iron and steel in the country, Mr. Carter made that city his home up to the time of his death, with the exception of a few years passed in New York as the eastern representative of the company with which he was connected.

Possessed of an active mind, a good education, habits of industry, and a sense of conscientious devotion to the interests of his employers, Mr. Carter was entrusted with positions of responsibility and always justified the confidence reposed in him. He was careful, painstaking, thorough and correct, and in the performance of the duties incumbent upon him spared no exertion of mind or body. I think his faithfulness, his fidelity, was one of his chief characteristics. If he once became your friend—and his was certainly a friendly disposition—the attachment seemed to increase with acquaintance, and was not of an ephemeral nature. Although habitually rather quiet and retiring and gentle in his manner, he was very companionable, especially in his times of relaxation, or when the mood possessed him.

Mr. Carter was a born mathematician, inheriting that mental quality, I think, from his maternal grandfather, Mr. J. G. True, a wholesale dealer on Commercial street for many years. The rapidity and correctness with which he produced mysterious results when playing with figures was amazing to me. The best of his mind was strongly toward scientific subjects and he kept himself thoroughly informed upon important matters transpiring in the scientific world. In this respect he was a very instructive man to talk with, having a pleasing way of imparting information.

Mr. Carter was at one time an active member of the National Guard of Illinois, and participated in the efforts to maintain law and order during the railroad strike in Chicago a few years ago. In his political proclivities he generally acted with the Republicans, but was independent in his thinking. In religion he was an Episcopalian, if I mistake not.

He leaves a mother, Mrs. Hannah J. Carter, a wife, Mrs. Florence (Bell) Carter, and a son, also named Philip, aged eight.—*C. G. B.*

The following address changes have been received: Charles V. Allen, Apartado 303, Mexico City, Mexico.—Edward S. Baumann, R. F. D. 1., Box 7, Terra Bella, Cal.—Charles C. Brown, Burnham, Pa.—Charles E. Buchholz, 155 W. Main St., Rochester, N. Y.—Horatio W. Burckhardt, 525 Eggleston Ave., Cincinnati, Ohio.—George F. Dana, 3770 Reading Rd., Cincinnati, Ohio.—Harry S. Houpt, 180 St. Nicholas Ave., New York City.—Frederick H. Keyes, 70 Morningside Dr., New York City.—George Moore, 28 Dock St., Yonkers, N. Y.—Edward B. Read, Box 11, Richford, Vt.—Fenwick F. Skinner, 21 Park Row, Room 1705-6, New York City.—Walter I. Swanton, 8th and E Sts. N. W., Washington, D. C.—Percy H. Thomas, 120 Broadway, New York City.—Dr. James S. Wadsworth, 105 Curtis St., Bath, Maine.—Charles R. Walker, P. O. Box 812, Warren, Pa.—Lawrence J. Webster, 90 Ivy St., Brookline, Mass.—William C. Whiston, 1311 Mansfield Pl., Brooklyn, N. Y.—S. Edgar Whitaker, 50 Congress St., Boston, Mass.

1895.

WINTHROP D. PARKER, Sec., 12 Bosworth Street, Boston, Mass.

The annual meeting and dinner was held June 12, at Louis' Cafe, Boston. The following men were present: E. F. Badger, Charles Bigelow, F. A. Bourne, W. C. Brackett, W. S. Chase, Gustavus Clapp, Luther Conant, A. D. Fuller, F. A. Hannah, G. W. Hayden, E. L. Hurd, Parker Kemble, J. L. Newell, C. H. Parker, W. D. Parker, F. L. Richards, G. A. Rockwell, Roger Williams, W. S. Williams, W. H. Winkley, J. H. Wright, H. C. Whorf.

The only matter of a business nature transacted was the collection of class dues, each man present contributing \$1.00. After this ceremony was successfully accomplished, the remainder of the evening was entertainingly spent in discussing the war. Several of those present had been in touch either with men in military life, or had duties in connection with organized work, which brought out some interesting opinions and facts not generally available.

The secretary would be glad to receive further contributions for the benefit of the treasury. While we have a small balance, there should be enough to provide for sending out of notices from time to time, and to provide for emergencies.

The following is an extract from a letter received recently from Walter Williams:

After being three years with the United States Finishing Company, I have just left to take up a similar but wider line with the Mount Hope Finishing Company, North Dighton, Mass. My duties include the purchasing of dyestuffs and chemicals, and the pursuit of the former has taken me several times lately to Buffalo, where I always see Watkins at the Schoelkopf Aniline & Chemical Works. This firm has done more than any other to meet the demand for "Made in America" dyes, and by

the energy of this staff have brought about an increase both in plant and output, that is highly gratifying to all concerned. Needless to say that Watkins has been more than busy doing his part.

A month or so back I had the luck to find both Miller and Winkley on the "Merchants" out of New York. We proceeded to hold a miniature '95 reunion of our own, with Miller as master of ceremonies.

From *School and Society*, dated March 10, we hear that Arthur D. Dean, director of Industrial Education, United States Department of Education, has been appointed professor of education at Teachers College, Columbia University.—A dispatch from Providence to the Boston *Herald* of June 11 states that Charles L. Parmelee of New York has charge of construction work in the eastern military district, to direct the laying out and building of one of the 16 cantonments to be established for the training of the first 500,000 men raised under the selective draft.—Wallace Brackett was in Washington July 11, looking up possible opportunities for the use of "Sanitas" plumbing goods in the government cantonment work. He received later the order for the equipment of the first hospital, then being built at Ayer, Mass. This called for 600 fixtures to be delivered in 30 days. Two weeks after receiving it, the order was 85 per cent filled.

Azel Ames is a major in the New York Coast Artillery. In a letter of recent date, he says:

Have been in U. S. service since July 15. I am in command of four companies of New York Coast Artillery. We are still at our new armory, Jerome Ave. and Kingsbridge Rd., New York City. We expect to go to our stations at the coast defense as soon as our clothing and equipment are complete. We cease to be militia on August 5, and pass by draft into the U. S. Army. Don't know when, or even if we shall get to France.

On the roster at the American University for the Engineer Officers' Reserve at Washington are the following '95 men: W. S. Rhodes, first lieut., Co. 3; W. B. Clafin, candidate, Co. 4; T. H. Wiggin, capt., Co. 4; P. M. Churchill, captain, Co. 5.

The secretary has received a very urgent notice from *The Tech*, requesting him to ask every member of the class to subscribe for the War-time issue of the paper. This should be a matter of patriotic as well as personal interest, and the price will not add materially to the H. C. L.

The following address changes have been received: Alden, Edwin C., 50 Morningside Drive, New York, N. Y.—Crane, Henry M., 44 W. 44th St., New York, N. Y.—Cutter, George A., 84 State St., Boston, Mass.—Drisko, Prof. William J., Mass. Institute Technology, Cambridge, Mass.—Faxon, Francis E., 54 W. 10th St., New York, N. Y.—Hannah, Frederick, 108 Washington St., Swissvale, Pa.—Kemble, Parker, 293 Marlborough St., Boston, Mass.—Kotxschmar, Coast Guard Cutter "Comanche," Galveston, Texas.—Meserve, C. A., Training Camp, R. O. T. C., Presidio, San Francisco, Cal.—Reed, Walter W., Oriental Hotel, Houston, Texas.—Schmitz, Frank C., 31 Union Sq., New York,

N. Y.—Sias, Frank S., 73 Winthrop Rd, Brookline, Mass.—Watkins, Willard H., P. O. Drawer 975, Buffalo, N. Y.—Wheeler, Archer E., Rm. 1227, 42 Broadway, New York, N. Y.—Wolfe, John C., 343 Cheves Ave., Westerleigh, Staten Island, N. Y.

1896.

CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Technology, Cambridge, Mass.

J. ARNOLD ROCKWELL, *Asst. Sec.*, 24 Garden Street, Cambridge, Mass.

The secretary's appeal for information regarding the activities of '96 men in connection with the war did not seem to make any impression, because only one reply has been received to date and that from Rockwell who announced that he has been appointed first medical officer in Base Hospital No. 39 with the rank of major, and that he would sail about September 1 to remain in France until the end of the war. Possibly the silence of other '96 men indicates that they are not doing anything in the way of patriotic service, although the secretary hardly thinks that this can be true.

The papers have had considerable to say in regard to the possible appointment of Col. Butler Ames, to be in charge of the New England Division of the National Guard, with the rank of major-general. It is understood that Ames was recommended by some of the governors of the New England States, but considerable opposition developed to his appointment, and the last word was that it probably would not go through. The Boston *Transcript* has the following to say regarding his record:

The governor recommended Colonel Ames for the position as head of the New England troops because of the fact that the latter is well qualified. He is a graduate of the U. S. Military Academy at West Point, and of the Massachusetts Institute of Technology. He was instrumental in organizing Light Battery "A," M. V. M., putting it at the head of the State Militia in efficiency and discipline. He went to the front in the Spanish War as lieutenant and adjutant of the Sixth Massachusetts Volunteer Militia. At Camp Alger, Virginia, he was appointed acting corps engineer of the Second Army Corps by General Graham in addition to his duties as adjutant of his regiment. In this capacity he put in driven wells, built bridges, repaired roads, etc.

He went to Cuba and Porto Rico under General Miles, was in the skirmish at Guanica and Tauco road—was recommended for promotion to the colonelcy of the Sixth Massachusetts Regiment by his division commander General Guy V. Henry and by his brigade commander General Garretson, and by all the officers present with the regiment, to Governor Wolcott. He was appointed lieutenant-colonel of his regiment while in Porto Rico. He had charge of the civil administration of the northern central part of the island of Porto Rico in the fall of 1898.

During his ten years in Congress he was a leading member of the Committee on Military Affairs. From his education, experience and personal qualities the governor believed that Colonel Ames was as well fitted for the place as any other man in New England and his experience fitted him well for looking after the welfare of the men. He regarded Colonel Ames as a valuable military asset and felt that it was a duty to call him to the attention of the department. The governors of two other states, having the welfare of their men at heart, recommended Colonel Ames. The governor understood that General Edwards was not a candidate. He felt that in the

light of his education, experience and general ability Colonel Ames, if appointed, would be one of the very best men in the whole army. The petition that was presented to the President was accompanied by a letter from the head of the War College, General Kuhn, who was an instructor of Colonel Ames at West Point and who has followed his career since. This letter strongly indicated his confident opinion of the desirability of Colonel Ames for this command. It would appear to be much better to have our men go out together under a New England man of proper education and experience for organization and command than to go out under some regular army man who might be spared from the regular army.

Myron L. Fuller, managing geologist of the Associated Geological Engineers, is conducting exploration work in West Virginia.

The students' paper, *The Tech*, has branched out during the summer into a war paper to contain all of the live news regarding the activities of Tech men, and keeping Tech men in touch with what is going on at Washington and at the Institute. Copies have been sent to all of the alumni, and the secretary wishes to urge '96 men to enter their subscription for *The Tech* in order to be kept in touch with the progress of events and to know how best they can aid their country.

Another appeal which the secretary wishes to make is for '96 men to get out their pens and paper and write the secretary what they are doing along military or other lines in connection with the war, so that the readers of the TECHNOLOGY REVIEW will not think that '96 is doing nothing. Possibly if you are not doing anything yourselves, you may know of something that some other classmate is doing, and this classmate is too busy or too modest to send in a report about himself.

R. E. Bakenhus called on the secretary June 2. He was in Boston closing up his work as public works engineer at the Charlestown Navy Yard. He has now become project manager of the new government Armor Plant at Charleston, West Virginia, being in charge of the public works end of the construction. For a year or more he will be located in Washington and then will move to Charleston. He reported many interesting experiences while serving on the board charged with the selection of the site for the armor plant.—A new pamphlet has appeared from Burgess on "Temperature Measurements in Bessemer and Open Hearth Practice," U. S. Bureau of Standards, Technical Paper No. 9.—Billy Anderson has written an excellent paper for the *Engineering News Record* on "Concrete Floors and Their Care." Anderson's long experience in concrete, together with his extensive tests along this line, make him an authority on this subject.

Bradley Stoughton, who is secretary of the American Institute of Mining Engineers, is tremendously busy with various war activities along with his regular work as secretary. He writes that war activities are now taking about half of his time and especially since the Institute is deeply engaged in a great many matters helpful to the nation, all of which keep him very busy in an executive way in connection therewith. These include the Officers'

Reserve Corps, which was originally proposed at a luncheon given to General Leonard Wood by the secretaries of the four National Engineering Societies; the Naval Consulting Board, the National Research Council, and many other organizations. The Institute is also carrying on very extensive work in connection with war minerals, as will be seen by the announcements in the Bulletin of the Conference Committee on War Minerals. He is also a member of the Committee on General Engineering of the Council of National Defense. These various matters usually take him to Washington once a week. Recently the Ordnance Department asked him to accept a position as technical expert in charge of purchasing projectiles for the army and in connection with, and subordinate to, Major Barba, who is in technical charge of the purchase of all steel for cannon and projectiles for the army. The Board of Directors of the Institute, however, requested the Ordnance Department to withdraw the offer for the reason stated in the following resolution:

The Executive Committee is of the opinion that the secretary of the American Institute of Mining Engineers can be of more use to the nation in his present situation, in view of the fact that there is no possible substitute for him in this position, than he could be if he left to accept a commission as an officer in the Ordnance Department, and this Executive Committee requests that an executive officer of the institute go to Washington and confer with the Chief of Ordnance, requesting a withdrawal of the offer to the secretary of the Institute and presenting the names of substitutes therefor.

The acting president of the institute went to Washington with him and presented this matter to the Ordnance Department. The offer has, therefore, been withdrawn, but with the understanding that Stoughton shall serve in a consulting capacity when needed.

Stoughton's oldest boy (aged 17), Philip, is driving an ammunition truck in France. His dad has to put up for uniforms, expenses, steamship tickets, etc.—Billy Anderson is one of the members of the Cincinnati Intercollegiate Intelligence Bureau Committee. This committee had made offer to Governor Cox of its services along any line of duty which may aid the State Defense Bureau.—N. H. Daniels spoke on the afternoon of May 3, to the Electrical Engineering Society of M. I. T., at their last meeting of the year. Daniels' subject was "Jobs, How and Where to Get Them and What to Do with Them After You Get Them." In view of the fact that he is in charge of the employment department of the Stone and Webster Engineering Corporation, his remarks were particularly valuable to Technology men about to enter the commercial field of science.—C. A. Wentworth is chief engineer of the Foundation Company in New York. That concern is actively engaged in war work. Ten wooden ships for the United States, five for the British and forty for the French governments are now under construction, while a launching ways for two battle

cruisers at the League Island Navy Yard are building under the same company.

1897.

JOHN A. COLLINS, JR., *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

A. T. Hopkins, XI, has sent in the following very interesting news:

Mrs. Hopkins and I have just returned from a ten-day automobile trip on the trail of the Mound Builders through Ohio and Kentucky. The authority on Indian mounds is Professor W. C. Mills, head of the Archaeological Museum at Columbus. In the museum is a wonderful collection of arrow-heads, spearheads, hatchets, hammers, pipes, beads, ornaments mostly made from flint and a great number of copper plates hammered from copper ore, and a collection of skulls and skeletons from the burial mounds. The pipes were largely cut into the form of an animal as a frog, snake, raccoon, etc., with a tiny bowl. One such pipe held partly burned tobacco, the oldest in the world.

Professor Mills estimates that the age of the Mound Builders probably preceded the Christian Era, and the skulls and skeletons indicate a type of Indian certainly prior to the present race. Professor Mills has published an atlas locating several thousand mounds which range from burial mounds to the embankments for religious and communal purposes, and effigies of animals and great fortresses for protection of their people. These mounds are thickly scattered along the waterways running from Lake Erie to the Ohio river, but are thickest in the vicinity of the Ohio river along the Muskingum, the Scioto and the Maumee rivers. These Indians were not primarily hunters. They were an agricultural race who planted their corn in the river valleys, caught fish in the rivers and traveled in their canoes up and down these rivers, and from one river to another by means of portages. The mounds are, therefore, in the neighborhood of rivers.

Mr. C. F. F. Campbell (M. I. T. '01) and Mrs. Campbell accompanied us to the town of Newark where we found two very interesting embankments, one circular form enclosing twenty acres adjoining a rectangular enclosure of fifty more. The enclosure would accommodate a vast assembly of people, and the presence of several sacrificial mounds indicate that it had been used for religious gatherings. This embankment was about ten feet high, made of clay and covered with vegetable mold at least twelve inches deep.

Another enclosure two miles distant was even more remarkable. It consisted of a circular wall about thirty feet high including a moat on the inner side of the circle. This enclosure comprises thirty acres and holds the county fair, the race track being on the inner side of the walls.

From Columbus we went to Cincinnati stopping on the way to visit Fort Ancient. This is a very remarkable fort, is built on the top of a precipitous hill and is over two miles in circumference. From this fort we had an interesting view down the valley.

The road from Cincinnati to Lexington, Kentucky, was over a range of hills nearly 1,000 feet high, and it took us through the class of people to which Abraham Lincoln belonged. We were very much interested in the people and houses and their farming, most of their farms being on the side of the hills lying at an angle of nearly ninety degrees.

From Lexington we drove to Louisville through the blue-grass region and saw many of the comfortable homes and farms in that state. The road from Louisville back to Cincinnati lies along the banks of the Ohio river most of the way and is very picturesque and interesting.

From Cincinnati we went to Chillicothe to visit the Great Serpent Mound. This mound, of which we all remember pictures in our school histories, is about fifteen hundred feet long and is very impressive. It is well cared for, being under the charge of a custodian. It is a wonderful work and would have disappeared but

for the efforts of Professor F. W. Putnam of the Peabody Institute, Cambridge, and the loyal support of some Boston ladies. The vicinity of Chillicothe is rich in Indian mounds, there being a great number of burial mounds and embankments similar to those at Newark.

Our route carried us on to Coshocton and Wooster, which is a fine college town, and so back to Cleveland.

We were much interested in the progress of farming through Ohio, and it is evident that more land will be under cultivation this year than ever before. Much of our trip was very beautiful, reminding us of the Berkshire region, Massachusetts. The roads were passable and at times very good, and we certainly had a very delightful trip.

Wilfred Bancroft, II, formerly with the Monotype Co., is now manager of the Saylesville Finishing Co. of Saylesville, R. I.—T. C. Atwood is in the engineering department of the Foundation Company.

1898.

A. A. BLANCHARD, Sec., Mass. Inst. of Tech., Cambridge, Mass.

The following men met at dinner at the University Club the evening of the graduating and Class Day exercises: Treat, Gardner, Russ, Blanchard, McIntyre, Perley, E. R. Barker, Humphrey, Wright, Dawes, Riley, and a mighty sociable and instructive evening was spent. Treat told us about Liberty Bonds, Gardner the latest about aeronautics and national preparedness, Dawes about the army (he plans to take a commission with the army engineer corps) and Riley gave us a lot of information about marine and aeroplane motors.

In view of the opinions expressed in the replies to the secretary and of those present at the dinner, it was agreed that, in case the war still continues, no elaborate twentieth reunion program shall be planned for next year, but that a dinner shall be held in Boston in an effort to get together as many of the class as possible and find out what kind of an account the class can give of itself. If the war is over then it was agreed that the reunion should be held somewhere between New York and Boston. Gardner thought that the New York members would wish to make the arrangements and it seemed to all present that it would be only a fitting courtesy to leave the management of the reunion in the hands of such a live and loyal contingent of our classmates. The Boston headquarters of the class would boom the reunion from this end and arrange the automobile trip from Boston to the chosen point.

The Institute is establishing a center for Technology men in Paris, and to that end is sending over this week Van Rensselaer Lansingh, '98, who has been doing important work for the advisory committee of the Council of National Defense, and who has been released for this special service. Lansingh will establish as soon as possible a Technology clubhouse for students and alumni, at which the men going over will be looked after and which will serve as a home for men on leave.

The Institute has also established a system for keeping track of every Technology man on the European side of the Atlantic and will endeavor to serve as the direct medium between them and their people on this side. As far as possible Lansingh will coöperate with men sent over for a similar purpose by other colleges in the United States, and looks forward to the creating of a large college center for the rendering of that personal and intimate service which is beyond the scope of governmental agencies.

The center is being established under the direct authority of the Institute of Technology, and is being financed by the Alumni Committee on the Mobilization of Technology's Resources, and by the Associated Committee of Technology Women, the executive committee of which consists of Mrs. Edward Cunningham, Mrs. Edwin S. Webster, Mrs. Harry M. Goodwin, Mrs. Frederick T. Lord and Miss Mabel K. Babcock.

Many Tech men are already on the other side, and Lansingh is to sail on the same steamer that takes over an American ambulance which includes sixteen Tech men.

J. F. Everett urges the merits of Seattle as a place for the reunion and he makes an excellent case.—Rumery has a son, John Rollins Rumery, born September, 1916.—E. R. Barker announces the arrival of his fifth baby, Miriam, December 22, 1916, making three girls and two boys.—Dr. Frank W. Snow was married to Miss Rosamond Dean of Boston, May 23, 1917. Snow, who is a graduate of Harvard Medical as well as of Tech, is a lieutenant in the medical reserve. He saw service in France with the 1st Harvard Unit and he will return there next month.—Dick Brown reports:

Still in the oil business. Now selling gasoline, fuel oil, and lubricating oil to the U. S. A. Am a member of Committee on Mediation and Conciliation under Labor Committee, National Defense Council. Hope to do my bit in one way or another to help out in the war. Bought some Liberty Bonds. The class of '98 seems to be doing much for our country. We are an energetic crowd and it is "pep" that will win this war. Technology and '98 must put this "pep" in evidence.

The following comment is from Winslow:

If the war continues it would be distinctly undesirable to have any very costly or expensive celebration, but I do think that it is desirable for the classes to keep together and especially in view of the splendid part Technology has taken in the work of preparedness. I should favor holding a reunion in any case, but adjusting its character to the conditions of the time.

Wadsworth says:

I am located in Washington at present in the aviation section of the signal corps and have a commission coming through as captain U. S. R. At present I am working in the tremendous production program of turning out airplanes in quantity. I may get to the front late, but not as a flyer. Washington is full of college and Tech men,—all are working for nominal pay—some for \$1,200 per annum. Everyone is sacrificing for the cause. We can use any number of good men on the production and inspection program of airplanes. *We will win the war in the air.*

Owen Leonard has been made superintendent of the A. D. T. Co. of Denver. He reports three children, the last a girl, January, 1917.—B. A. Adams was for four and a half months in the Mexican

Border Service attached to the Punitive Expedition. He was mustered out of that service October, 1916, but since last March 25 he has again been in the U. S. Service as first lieutenant, 2nd Massachusetts Infantry.—H. W. Jones was with Pershing's expedition in Mexico for six months in charge of the ambulance work. He was then ordered to the Army Medical School, Washington, as secretary of the faculty and professor of sanitary tactics and administration. He has also been engaged in motor ambulance work, designs of ambulances, hospital trains and transportation. Promoted July 1, 1916 to major. He is also busy with many of the details of medical officers proceeding to Europe for service in France.—Edward B. Richardson writes:

Having enjoyed the summer as captain of Battery A, 1st Massachusetts, N. G., at El Paso, Texas and having spent a tremendous amount of the entire day and night in paper work required by army red tape, and having expected for two months to be again called into federal service and to get to France, there has been no time for recreation, but little time for the little business we have left, and since the next time of duty is apt to be a long one, if not a final one, and since both members of the firm are in the field artillery (Richardson and Hale, Consulting Engineers), our office closes for good July 1, 1917. If I return it seems probable I shall raise hogs in the back country somewhere, importing some German ones for the purpose.

The following is from Paul Johnson, at Altadena, Cal.:

Please tell the fellows that I am sorry not to be with them this year as I was last. In addition to my duties as secretary and treasurer of the Johnson Service Company, I am now also manager of the Los Angeles office, as the former manager was transferred to our Chicago office. This necessitates my spending three days a week in Los Angeles. I have just joined the Jonathan Club there, and nearly every time I go there for lunch, I meet Frank Coombs, who has recently come to Los Angeles from Vancouver, B. C. He is a brick. Ask him. We both eat at the "Kickers' table," and it is a live bunch.

On May 9, work was commenced on my new house and garage. The garage is to be done in a few days and on June 15 we will move into it and camp there till the house is done, which will be about November 1. So it keeps me busy watching the construction work on my home. Besides with the help of my gardener I am laying the water mains and gas mains myself. There is 700 feet of $1\frac{1}{2}$ " gas main, and when complete the water mains, irrigation and sprinkling system will have about a mile of pipe from 2" down to $\frac{3}{2}$ ". The grounds are $7\frac{1}{2}$ acres in extent, 1,500 feet above sea level, 15 miles from Los Angeles, which is plainly visible on ordinarily clear days, 5 miles from Pasadena and at the foot of Mt. Lowe. When the air is very clear we can see 40 miles of ocean shore the nearest point of which is 30 miles away. We also see Catalina Island, 60 miles away, and very rarely Santa Barbara Island, 105 miles. The mountains of Catalina Island are plainly visible on many days when it is not clear enough to see the ocean.

I am doing my bit by maintaining a vegetable garden of about an acre on land that was raw sage brush this spring.

Hollis Godfrey writes:

My son, Alexander, takes his degree, bachelor of science, at the University of Pennsylvania on the twenty-first of June. He was graduated from Exeter, went to Harvard, and then to Pennsylvania. He specialized in civil engineering and in transportation.

He has applied for and been recommended to the position of second lieutenant in the Engineers Officers' Reserve Corps. He is, as I think you know, the fourth of five generations of civil engineers in our family.

I feel that the celebration should be limited to the utmost possible degree, but I think it might be advisable to publish in the simplest way a Class Book.

I am finding in my work that such records as we have published in years past are proving of admirable value, and the material, owing to Litchfield's splendid work, should be easy to obtain. Probably such a book would consist of Litchfield's cards brought up to date and printed in the simplest possible fashion.

R. W. Pratt is among civilian engineers engaged for water supply, sewage disposal and similar work at Chillicothe, Ohio.

The following taken from the *Brooklyn Eagle* date of February 10:

"Heyward Scudder, member of an old Long Island family of Northport and first cousin of Supreme Court Justice I. Townsend Scudder of Brooklyn, was found dead in his room on the tenth floor of the Hotel Lenox, Back Bay, after a destructive fire there today. The body was found several hours after the fire had been put out. There were no indications that Mr. Scudder had been burned or suffocated, death apparently being due to natural causes.

"Mr. Scudder was the son of Henry J. Scudder, an old Long Island resident, very well known in Northport. The Scudder home at that place has stood for generations. A brother, Edward, a lawyer, lives at 107 East Thirty-fourth street, Manhattan.

"Mr. Scudder was a single man, 46 years of age. He was educated for the medical profession, but poor health prevented him from practicing. He was engaged in the study of experimental chemistry at the Massachusetts Institute of Technology and was the author of a number of valuable books on chemistry.

"For several years Mr. Scudder had been a sufferer from heart trouble and it is supposed that his heart failed him in the excitement attendant on the fire."

1899.

W. MALCOLM CORSE, Sec., 106 Morris Avenue, Buffalo, N. Y.
BENJ. S. HINCKLEY, Asst. Sec., 112 Water Street, Boston, Mass.

Dwight Farnum of Denver, Colo., announces his marriage to Clara Graf, Thurdsey, June 28.—R. W. Stebbins writes that the only thing of interest that he has done recently was to drive an ambulance in Flanders in 1915. This would seem to be of great interest and we hope to have further description of his experiences.

Born to Mr. and Mrs. James B. Ellery on April 11 a daughter Susan.—Charles A. Watrous writes cheerfully of his war preparations:

This year while the reunion is in progress I shall be answering the call to the colors, as I am a major, construction section, Quartermasters Corps, Officers Reserve Corps, U. S. Army. Some title! So far I have been lucky and have not been called into active service but expect to find the long white "Official Business" War Department envelope on my desk any morning which will mean that I have five days in which to pack up and start for station, wherever that may be. Let us hope that this mess won't last long but I am preparing for three years of it. You chemists will have to make the liquid fire and poison gas for us to "Stifle" Fritz with, so please make some that knows the difference between an Allies uniform

and that of a German. We are going forth to fight Fritz but may end in fertilizing France, if we are unlucky enough to be among these present when a "Jack Johnson" comes down out of the sky. Give my very best to any of the boys that show up.

The Railway Age Gazette has the following item of interest:

Benjamin S. Hinckley, who has resigned as purchasing agent of the Boston & Maine, at Boston, Mass., to go into other business, was born on November 18, 1875, at Charlestown, Mass., and graduated in 1899 from the Massachusetts Institute of Technology. He began railway work on August 1, 1899, with the Northern Pacific, and from April, 1906, to June, 1907, was chief inspector of the test department of the New York, New Haven & Hartford. He then served as engineer of tests on the same road until July, 1911, when he was appointed purchasing agent of the Boston & Maine, with headquarters at Boston, Mass.

Hinckley's former position was given to another Tech man, A. W. Munster of '04. In regard to his work, Hinckley writes to the secretary as follows:

Have resigned my position as purchasing agent of the Boston and Maine Railroad to enter business on my own account.

Have incorporated as Hinckley Coal Co., offices at 112 Water street, Boston, and will handle the output of several bituminous coal mines and also buy and sell coke.

Have always had the ambition to enter private business and the opportunity to do so has just appeared. It was difficult to make up my mind to drop railroad life as I had always been in love with my work.

Have just taken a trip west with my family and am greatly impressed with this booming city of Seattle. Called on W. Scott Matheson and enjoyed a pleasant evening with his family and he certainly has a happy home with his wife and charming little daughter of ten years. Let me tell you, Matheson is going to be kept busy later on when he chaperones that daughter as she is a winner. Lunched with Scott at Arctic Club and greatly enjoyed the Pacific Coast shell crab. By the way, Scott is now manager of the Westerman Iron Works and is very busy as the shipbuilding requires much of his product and as you know shipbuilding is the great and growing industry at the present time in Seattle.

Called upon Clancy M. Lewis who is now secretary of the Seattle Manufacturers' Association and is in charge of their fine new building and exhibit hall. This exhibit is most interesting and covers all the industries of Seattle of any prominence.

Lewis is a happy man with his country home where he produces a fine lot of vegetables.

Am leaving for home next Saturday morning and I hope you will drop in and see me in my new offices when you come to Boston.

At the famous and successful masque of "Caliban" which was held in Boston recently, the steam curtain, which was used so effectively at the Reunion, was designed and installed by Professor Edward Miller, '86, and the acoustics were planned by Clifford M. Swan, '99, acoustical expert for the H. W. Johns-Manville Company of New York. Swan has used a new principle in the construction of the stage by making the sounding-boards flat instead of in the usual shell shape. The preparation of the stage required six months. It was built at a cost of \$20,000 and is the largest stage ever constructed, being 225 feet long and 65 feet high. The whole is lighted by 139 searchlights, six of which are 2,000,000 candle-power each, the rest being 290,000 apiece. The stage is a product of Technology in more than one way, since a small model of it was constructed in the wood-turning laboratory before it was set up.

Only the sections from 10 to 29 in the Harvard Stadium are used, since it would be impossible to hear at a great distance. The enclosed part of the Stadium is large enough to seat 18,000 people.

Dudley M. Pray, lieutenant, N. N. V., sends a hasty line:

Have been doing some odd state and U. S. jobs in the Naval Militia cause and expect soon to "take on" for the war. I do not know any other man of this class who has been in this branch of the service but perhaps there are.

In the Naval Militia of Massachusetts there are several, some now at sea and some on shore duty (in other classes).

The secretary reports with much regret the death of one of our class,—Russell Hall. We print from the Boston *Transcript* under date of June 22, as follows:

"Russell Hall, a Boston business man, died on Thursday, after a brief illness, at his home at 16 Ashland street, Melrose Highlands, in his forty-third year. He was born in Bradford and at Phillips Andover Academy fitted for the Massachusetts Institute of Technology, from which he was graduated with the class of 1899. Since then, he had been associated in Boston with the Androscoggin Pulp Company. Mr. Russell is survived by his wife, Jessie (Brown) Hall and two children."

1900.

WILLIAM R. HURD, 2d.

RICHARD WASTCOAT.

PERCY R. ZIEGLER.

INGERSOLL BOWDITCH, Sec., 111 Devonshire Street, Boston, Mass.

Owing to the irregularity of the time of issue of the REVIEW due to the war, the secretary lost all track of when the news should be sent in and was just starting on his vacation when the request for copy was received. As business must never interfere with vacations no special effort was made to get news but it is hoped that the next letter will be up to standard.

Major George E. Russell is in command of the Tech men at East Machias and from all accounts the students are being well trained in military as well as engineering subjects. Russell makes a good officer and his experience in the Coast Artillery of Massachusetts is a great advantage.

A. A. Reimer is a captain on active duty in Company 6 at the American University. This is a camp in Washington for the Engineer Officers' Reserve and is more advanced than Plattsburg.

W. C. Dean was present with other Tech men at a meeting of the Washington sub-committee of the Technology Mobilization Committee and acted as secretary pro-tem. The duty of this committee is to keep informed as to what Tech men are in Washington and to help in any way they can to further Tech interest in the preparation for the war.

Neall reports that George C. Gibbs has been offered a position as chaplain in a St. Louis regiment and has made preparations to join

the regiment as soon as he gets his commission. His former experience as an engineer will help him lay the foundations for his churches and incidentally guns to defend them. Neall also reports the arrival of his second child, a boy, on August 7. Both mother and baby are doing well at this time of writing. He has been helping with the electric installation at the military camp at Ayer. Electricity is to be used for a great many purposes and a great deal depends on its proper installation. He expects to see 20,000 troops there by August 20.

Chester Richardson has left the Transit Commission and is with Fay, Spofford and Thorndike. It is said that he is in charge of a very important work.

Announcements have been received of the marriage of Katharine Wentworth to Herbert Holmes Howe. The class extends to him its most hearty congratulations. Bowditch has been helping the third district exemption board examine men in Cambridge.

Reardon has left the General Electric Company at Lynn and is connected with the Underwriters Laboratories in Boston as inspector of wire for the New England territory. His home address is 629 Washington street, Wellesley, Mass.

Mr. and Mrs. R. Wilfred Balcom announce the arrival of Margaret MacDonell Balcom on June 1, 1917.

1901.

ROBERT L. WILLIAMS, Sec., 107 Waban Hill Road, North, Chestnut Hill, Mass.

R. B. Clark has given up his real estate business at the request of the Navy Department and is now inspector of hull construction for the U. S. Navy. His home is at Wynnewood, Pa.—As a result of a competitive examination of the Second Company, Coast Artillery, National Guard of Hawaii, L. H. Bigelow was appointed first lieutenant. He has already seen several years' army service as superintendent of construction in the quartermaster's department.—F. G. Clapp has just completed a monograph on present status of oil and gas developments in South America.—The class secretary is very busy these days superintending the installation of submarine signal apparatus on naval vessels. He has recently visited all the navy yards on the Atlantic coast.—F. E. Cady writes, "Why do such a small percentage of the class members pay their dues?" Will some one who has not paid for the last ten years kindly answer this question?—O. M. Davis says he spends his time making cotton lint for Mr. du Pont to turn into powder. He also states that he "drives a Dodge and keeps out of jail." To whom does the credit belong, Dodge or Davis?—H. C. Marcus is a wholesale hardware manufacture agent at San Francisco, Cal. Under "interesting news" on the class data sheet he writes "Just older, that's all."—John J. Stone, as con-

struction engineer for Charles Meade and Company, is erecting several buildings at the Brooklyn Navy Yard.—J. P. Catlin is managing engineer, Motor Engineering Dept., General Electric Company, Pittsfield Works.—T. F. Lange is purchasing agent and engineer for the Turner Construction Company, New York City. His specialty is reënforced concrete building construction.—H. W. Maxson is assistant manager of the U. S. Steel Products Company, Montreal, and writes, "As we are sold out for another year I hereby challenge any '01 man to a game of golf."—C. J. Bacon is in the mechanical experimental division of the engineering department of E. I. du Pont de Nemours & Company.—J. R. Putnam suggests that the secretary buy a Liberty Bond for the class. The class funds are too low for this purpose, we are sorry to state. Can't we increase them?—H. P. Parrock writes:

I think that "Business as usual" is the most futile expression that has been invented in some years. I'm against Tootons in general, and Hopanhollerns in particular. To hell with them! and that's our *only* business today.

At the present time *The Tech* is a joint publication of the Alumni Association, Technology Clubs Associated, Alumni Bureau at Washington, Joint Committee on National Service at Cambridge, the Technology Bureau in France, the Associated Women of Technology, the Friends of Technology, and the Undergraduate Association. P. C. Leonard, general manager, has written the secretary:

If we keep up this work, we must have subscribers.

1. In order not to defeat our purpose.
2. In order to get advertising.
3. In order to help pay postage to you and the boys in the trenches and training camps when every issue of *The Tech* is being sent.

Let every '01 man subscribe!

1902.

FREDERICK H. HUNTER, Sec., Box 11, West Roxbury, Mass.
J. ALBERT ROBINSON, Asst. Sec., 203 Washington St., Canton,
Mass.

The fifteenth anniversary reunion of the class was held on June 15–18, nine members leaving Boston by automobile on Friday, the 15th, and going to the West Bay Inn at Osterville, Mass. The transportation was furnished by Fitch with his Studebaker, Whitney with a Reo, and Ritchie with a Flivver. The passengers were Nickerson, Reynolds, Philbrick, Shedd, Pendegast and Hunter. At Osterville Gates was on hand having ambled across from Providence in his Super-Six. Supper was despatched and the evening spent in getting acquainted.

Saturday morning was cloudy with tennis court and ball field wet from a night's rain, but golf on the Seepuit links and quoits

on the lawn proved interesting diversions. At quoits Pendergast had some oriental curves that brought him in a winner with an average, corrected for temperature and barometric pressure, of 6.78432. Philbrick netted 5.38421 with Fitch 5.38419 (all computations were done by Charlie Shedd on a revolving slide rule); the other scores were suppressed. The golf fiends returned for lunch with smiles on the faces of Ritchie and Gates although the latter gave all the credit to his partner. Whitney and Nick, however, took their defeat cheerfully.

Early in the afternoon, just as a ball game was being arranged, the deluge began and continued with few intermissions for twenty-four hours. A motor run was made to Hyannis in search of an elusive bowling alley which had not opened for the season, and the party had just returned to Osterville when a Buick runabout dashed up with Ralph Thurston who had come all the way from Putnam, Conn., that afternoon. The evening train brought Robinson and Fisher which added to the gaiety of the party.

In the evening, after a sing with Thurston at the piano, a class meeting was called, and the following officers were elected, Fitch, president, Burt Philbrick, Mathesius and Lockett, vice-presidents, and Robinson, assistant secretary. All other formal business was waived, and the meeting turned into a burlesque town meeting at which several important articles were discussed. Dana Fisher was nominated for the office of moral censor and unanimously elected after the motion was amended by putting "im" before the word "moral." An attempt was made to lay the subject on the table, but he was too heavy. The legend of Robbie's impending work, "Why is a Fire?" was buried with due ceremony on the strength of his announcing that he was to be married two weeks from that day. The balance of the evening was spent in various diversions and as a result Reynold's dues were paid.

Sunday morning proved stormier than ever, and the clam bake which our genial landlord, Mr. Crocker, had planned for our dinner had to be passed. As outdoor activities were impossible the "Baby Show" was next pulled off with Mrs. Crocker and her daughter and a Mrs. Lansing, the only lady guest at the hotel, as judges. Over fifty pictures were exhibited in the various classes, the jury reporting a "First" in each class and awarding "Mentions" as they saw fit. The awards were as follows:

Class "A" for infants under one year:

First Prize to Helen Claire Allyn at 4 months.

Mentions to Jane Elizabeth Capen at 6 weeks, James Warner Allyn at 8 months, Elizabeth Sewall Hunter at 3 months.

Class "B" for babies from 1 to 3 years:

First Prize to Alice Thurston Hunter at 21 months.

Mentions to Willard Brewster Nickerson at 21 months, Wendell K. Fitch at 24 months, Elizabeth M. Marvin at 28 months.

Class "C" for girls over 3 years:

First prize Helen Claire Allyn at 3 years and 3 months.

Mention to Marjorie Knight Reynolds at 8 years.

Class "D" for boys over 3 years:

First prize to Horace Warner Allyn at 8 years.

Mentions to George Darby Eagar at 8 years, Robert Wood Reynolds at 9½ years, Eldred "Chub" Patch at 10 years.

Group Class:

First prize to the Allyn family: Marjorie, 10 years; Horace W., 8 years; Helen Claire, 6 years; Nancy C., 4 years; J. Warner, 2½ years. Jane R., 8 months.

Honorable Mention to the Eagar family: Lois, 13 years; Jane, 11 years; George, 7 years; Geraldine, 5 years.

As will be seen many of the prizes went to members who were unable to come but sent pictures, and the awards were scattered between studio pictures and snap shots.

In the afternoon the weather at last broke clear with a strong West wind and blue skies. Several of the classmates had to leave to return to work the next morning, the others going by motor down the Cape to Chatham and return. The evening was spent in pleasant recreation, and the party returned on Monday forenoon, all present reporting it a most enjoyable time in spite of the weather and regretting that war conditions prevented a much larger attendance.

Two of our classmates, Wadleigh and Worcester, have long been in Uncle Sam's service. Wadleigh has recently been promoted to the rank of major, U. S. Marine Corps. Whether he was with the forces that have already gone abroad we have not at this writing been able to learn, nor what part of the army activity is taking Captain Worcester.—Lewis Moore is at the Engineer Officers' Training Camp at the American University, Washington, with the provisional rank of captain.—Kenneth Grant is also training for a commission in the engineer corps.

Normie Borden turned out with the Framingham Company of the 6th Massachusetts, in which he was sergeant, shortly before the declaration of war. He was soon picked for more important work than guarding bridges and sent to the R. O. T. C. at Fort Niagara, N. Y., where he was soon appointed captain. He recently sent the secretary a photograph showing a squad at bomb practice under his supervision.

Les Millar is special railroad representative of the Mark Mfg. Co. of Chicago.—Arthur More has left the Union Fibre Co. of Winona, Minn., and is now with the Bay State Milling Co. of the same city.—Paul Weeks is with the Holt Mfg. Co. of Stockton, Cal., designing caterpillar tractors, the demand for which has so largely increased on account of the war.—Huzzey is architect for a large building for the Central Maine Sanitarium now being erected at Fairfield in that state.—"Freddie" Allyn writes that Fruit was

in Montreal recently and will shortly be located there, in what capacity we have not learned.—Harold Pope has crossed the continent, being now located as factory manager for the Glenn L. Martin Co., Los Angeles, Cal., which is a subsidiary of the Wright-Martin Aircraft Corp. of New York with whom he has been connected.—Blodgett is with the Standard Electric Time Co. of New York City.—Boardman is in charge of the designing and drafting department of the Walter Lummus Co., 173 Milk St., Boston, constructors of chemical manufacturing equipment.—Lockett is now sales manager for the C. C. Buhl Co., 116 South Green St., Chicago.—Lester Hammond is back in New York once more after some time in Buffalo. His present address is 930 St. Nicholas Ave., and we understand he is still connected with the Turner Construction Co.—Hervey is with the Eastern Wisconsin Electric Company at Sheboygan, Wis.—Bert Haskell is with the International Portland Cement Co., Sieuris Bayas, Argentine.—Gardner Rogers is manager of the Blackstone Valley Electric Co., Woonsocket, R. I.—Adrian Sawyer has transferred from the Chicago office of the George A. Fuller Co. to the Boston office and is so full of business at the new stand that he was unable to get away for the reunion.—E. E. Nelson is with the Adirondack Electric Power Co., Utica, N. Y., having come north from Texas.—Our other Nelson, Arthur T., has made an even longer move, having shifted from Seattle to Boston, his address being 15 Beacon St.—Pendergast reached Boston a few days before the reunion having traveled extensively in China, Burma and India since leaving Manila over a year ago. He made a stop in Hawaii, visiting Tech's Volcano Observatory at Kilauea, and spending a couple of days with Professor Jagger. His description of the famous crater made all those at the reunion wish to visit it. Arriving in San Francisco early in June he stopped at Salt Lake, Omaha, Minneapolis and Chicago on the way East.—We chronicle with pleasure the arrival of a daughter Agnes at the home of Charlie Kellogg in Keokuk on April 23. This gives Charlie "2 pairs."—Robinson was married on June 30 to Miss Grace Crawford of Brunswick, Maine, the ceremony taking place at the home of the bride's aunt, Mrs. Jennie F. Winchell of Brunswick. The bride was escorted by her brother, James A. Crawford of New York. The maid of honor was Miss Ruth Montgomery of Jamaica Plain, and Henry J. Hart of Bangor was best man. After the ceremony Robinson and his bride departed for a trip through the Green Mountains and Berkshires and will make their home at Canton, Mass.

1903.

M. H. CLARK, Sec., 1790 Broadway, New York, N. Y.
R. H. NUTTER, Asst. Sec., Box 272, Lynn, Mass.

At the instigation of Hewitt Crosby, who has a way of gathering us all in, several of us assembled at the Technology club on May 1,

and had a jolly evening renewing acquaintances. There were quite a few present for an '03 gathering—even as many as twelve—and among the distinguished guests were Howes, Aylsworth, Allen, Regestein, Greene, Skowronski, Pearson, Haskell, Doran, Crosby and Clark.

We haven't as yet heard who went to the Commencement exercises on June 12, though, and topped off the day with dinner at the chapel at the Brunswick. Isn't there some brave soul who can give us light on the subject? How about Sears? He said he would try to be there.

Hatch, former superintendent of fuel service of the Delaware, Lackawanna & Western, has resigned to accept a position as assistant to the president of the Locomotive Pulverized Fuel Company of New York.—On June 19, Leon Harwood was married in Springfield, Mass., to Miss Ethel McCorkindale, daughter of Mr. and Mrs. William McCorkindale. Mr. and Mrs. Harwood will receive after October 1 at 79 Firglade avenue, Springfield.

It is with regret that we mention the death of H. C. Burdick at his home in Millburn, New Jersey, during the month of March.

Now's the time to line up for *The Tech*. Many subscribers are needed to keep the magazine going to you and the boys in the trenches and training camps, and one delinquent subscription may keep some poor soul in the trenches ignorant of what Technology is doing for the cause. '03 wants to have a 100 per cent honor roll when *The Tech* publishes the subscriptions; therefore, do not be backward in coming forward. Send your name to the secretary at once and we'll see to the rest—\$1.50 for six months—bi-weekly issues. Attention, Classmates!!

Address Changes

Charles L. Bates, Earl Grey, Saskatchewan, Canada.—William J. Bay, care of Phipps Charcoal Co., Ironton, Ohio.—Hermon F. Bell, E. 22 17th St., New York City.—George H. Clapp, 45 McMunn St., Crafton, Pa.—Lawrence H. Lee, 4015 N. 22nd St., Tacoma, Wash.—Frederic A. Olmsted, North West Bank Bldg., Portland, Ore.—Philip B. Rice, care of International Railway Co., Buffalo, N. Y.—Prof. Richard O. Tolman, University of Illinois, Urbana, Ill.—Mr. Irving Williams, 571 Montgomery Ave., Chambersburg, Pa.

1904.

HENRY W. STEVENS, Sec., 39 Boylston Street, Boston, Mass.
AMASA M. HOLCOMBE, Asst. Sec., 510 Pine Street, St. Louis, Mo.

The secretary has received news of two additions to the children of 1904.

Mr. and Mrs. William N. Todd announce the arrival, on May 24, 1917, at 126 William street, Portland, Maine, of a daughter, Barbara Mary, weight eight pounds.—Mr. and Mrs. Currier Lang

announce the recent arrival of their second daughter. They also have a son.—The following letter from Holcombe dated May 5, 1917, at St. Louis, gives us welcome news regarding our silver-toned tenor "Charley" Haynes as well as some about the assistant secretary himself:

The St. Louis papers announce the purchase by the U. S. Rubber Company of the Banner Rubber Company factory to be operated under the supervision of Myron H. Clark (1903), and Charles R. Haynes, superintendent of the Goodyear Metallic Rubber Shoe Company's factory at Naugatuck, Conn. The output of the St. Louis factory will be 10,000 pairs of rubber shoes per day.

Charley was in St. Louis recently, and I saw him for the length of time it took the taxi to carry us from the hotel to the station. He says he is a "very busy boy."

I have recently accepted a commission as captain in the Ordnance Section, Officers' Reserve Corps, U. S. Army. I do not know what the duties of the office are, nor what will be expected of me, but when the government wants me I will be on hand, classified for the service I think I am best able to qualify for. At present, as secretary of the St. Louis Alumni Society Preparedness Committee, I am plenty busy raising the \$250 which we subscribed toward the preparedness program of the Technology Clubs Associated.

Holcombe writes again from Washington, under date of June 6, 1917:

This is to inform you that I am now devoting my entire time to military duty and you will have to carry on the class affairs without my assistance, probably for the duration of the war. I have been assigned to active duty in the small Arms Division of the Ordnance Department at Washington, D. C., and am located at 1801 I street, N. W., where I will be glad to see you at any time on official business.

Although Homer and Holcombe are the only members of the class known by the secretary to be actually in the service at present, there are doubtless others, and the secretary will be glad to receive any information to that effect.

1905.

GROSVENOR D'W. MARCY, Sec., 246 Summer Street, Boston, Mass.
CHARLES W. HAWKES, Asst. Sec., 246 Summer Street, Boston,
Mass.

Mrs. John Paul announces the marriage of her daughter, Lilian Cunningham, to Mr. John H. Flynn, on Monday, the fourth of June, nineteen hundred and seventeen, Saint Francis Church, Staunton, Virginia.—The *Boston Herald* of July 11 has the following item:

Mrs. Mary E. Miner of Roxbury, announces the engagement of her daughter, Editha, to Albert Crosby Armstrong of Wollaston. Miss Miner was graduated from Simmons College in 1911, and Smith College in 1916. Mr. Armstrong attended the Massachusetts Institute of Technology, class of 1905.

Charlie Johnston announces the birth of Marjorie Johnston, on June 21, at Norfolk, Va.—Andrew Fisher, 3d, arrived at Roxbury, on the 1st day of July, weighing $8\frac{1}{4}$ pounds.

A class dinner was held on the evening of Commencement Day, June 12, and twenty-five fellows gathered at the Boston

City Club. Percy Goodale was toastmaster, and introduced Brigadier Charles Flamand, of the Twentieth French Army Corps, who told in a mighty interesting way of his experiences during two years of the war, in which he was wounded three times, and decorated twice. Henry Keith came to the dinner right from the Navy Yard, and sure looked well in his lieutenant's uniform. He told something of his work there in connection with the department of hulls. The first copies of the Ten-Year Book were distributed at this dinner.

Jim Barnes is going right on up the ladder, as is shown by the following item, in the Albany *Argus* of March 7:

James P. Barnes, general manager of the Buffalo, Lockport, and Rochester Railway Company, has been appointed general manager of the Schenectady railway lines to succeed James F. Hamilton, who will go to Rochester to assume the general management of the trolley lines in that city.

Mr. Barnes is a graduate of the Massachusetts Institute of Technology, and is president of the New York State Railways Association. He has been managing the lines of the tri-city company since October, 1914.

Phil Hinckley has won a captain's commission after attending the Engineer Officers' Training Camp at American University, Washington, D. C.—W. A. Clark has received a first lieutenant's commission.—Grafton Perkins is now at the second Officers' Training Camp at Fort Myer, Va. He was active on the committee for getting Maryland recruits for the camp, and says they came across with a larger proportion of applicants to vacancies than any other state in the East, furthermore, "It was a refreshing insight into the standing of army officers, to see how impervious our major was to all sorts of political influence which was brought to bear on him during the examination of applicants."

F. F. Longley is engaged in engineering work at the cantonments at Wrightstown, N. J., under the direction of Allen Hazen, '88.

Selskar Gunn has sailed for France to act for a year as associate director of Commission for Prevention of Tuberculosis in France under the Rockefeller Foundation.—C. W. Babcock is now in the Naval Coast Defense Reserve, in command of the patrol boat "Alacrity."—Gilbert S. Tower writes as follows:

Since May 15, I have been located at the Navy Yard, Boston, on leave of absence from the Boston Manufacturers Mutual Fire Insurance Company, with which I have been connected as engineer for nearly ten years. I am enrolled as lieutenant in the U. S. Naval Reserve to serve for four years, or until the end of the war, when there will be the privilege of resigning. The new work is of an engineering nature, in connection with the repairing and equipping of war vessels, converting yachts into patrol boats and fitting out trawlers for mine sweeping. Having been a "naval architect" originally, and also taken the naval constructor's course at the "State," I am finding the work very interesting and the amount to be done is keeping us hustling.

Henry F. Lewis reports the birth of Roslind Kenway Lewis, on July 22, 1917.

Each of the two following newspaper items tells a sad story and will arouse the sincere sympathy of our classmates.

From a Baltimore paper under date of July 27:

While her husband and two little children were laughing and watching her splash about in the water off Folley, Stony Creek, Mrs. Grafton B. Perkins, wife of the advertising manager of the Resinol Company of this city, was seized with cramps and drowned on July 26, before her husband could reach her side.

The members of the party had spent a part of the morning in the water, and in the afternoon went in bathing again. Mr. Perkins left the water with his children, Deborah, and Grafton B. Perkins, Jr., and laid on the beach while his wife went out about three hundred feet from shore.

Suddenly she screamed, threw up her hands, and sank. Mr. Perkins dashed into the water and hastened to the spot where she had been, but though he made every effort to recover the body he could find no trace of it.

A thorough search was made, but the body was not recovered until next morning.

The second item heads the honor roll of our class in the war.

LEWIS.—Lieutenant Henry Francis, the 100th Battalion, Canadians, second son of late H. F. Lewis of Chicago and Ada Lewis (Valleau), taken prisoner at Vimy Ridge, died in Bavarian Field Hospital 29.

The secretary has received the following letter from Henry's mother, Mrs. Ada Lewis Valleau:

I want to thank you for your kind letter which came some time ago.

With regard to the circumstances and date of Henry's capture, I have received a letter from a Canadian friend of ours who has been in the service of the government in London ever since the first of the war. In his letter he says:

"Henry's battalion with a number of others got an order to go over the top and advance on a certain minute by the clock. They did so, and after they had got to the second position, they had to halt and connect up with the battalions on the right and left so as to keep an unbroken front. When Henry and another officer deployed to the right to get in touch with those on the right, they fell into a body of Germans and were wounded and taken prisoners. The battalion on the right had not come as far forward on time, as they should, and the Germans were not yet driven out of that advanced position. It was found afterwards that poor Henry died prisoner of war instead of being killed.

"I have met a number of his friends since, and they all speak so highly of him, not only for his bravery and efficiency as an officer, but of his *princely* personal qualities. We have the great satisfaction of knowing that dear old Henry went out in the grandest way one could, and for the greatest question of all time, viz., 'Liberty.' He died a hero and a brave officer and will so ever live in the memory of those who knew him."

On November 14, 1916, Henry was married to Kathleen Baker in St. Pancreas town hall, London. Her present address is Mrs. H. F. Lewis, "Penshurst," Steyne Road, Seaford, Sussex, England.

It was on the 12th of April that Henry's battalion made the attack mentioned above as we found out from a letter written to Mrs. Lewis by the chaplain of the battalion namely the 44th Battalion Canadian Infantry. Another reason for believing this to be the correct date is the fact that the last letter we had from Henry was dated April 11. In this letter he said "Well, I had my first trip over the top across no-man's-land yesterday and made out fairly well though we were all so tired out with the cold and discomfort and lack of sleep of the preceding 86 hours that we were not at our best. We are out for 24 hours and moving in again almost at once. Am too tired to write more but will do better as soon as we finish our next job. These are stirring times along our front as you have probably seen by the papers. It reads fine in the papers but it is just plain hell for those who are in it."

I have just had word from the London Red Cross, giving the date of Henry's death as April 12, which was the very date of his capture.

I hope that this information will be what you want and should you like to have a photograph of Henry, I have some splendid ones taken just before he sailed for England last fall.

Doc Lewis is spending most of his time in Washington, or traveling around the country, supervising experimental work on gas masks for the army.—Bill Green is acting as consulting chemical engineer for the Medical Supply Depot, United States Army, and is actively concerned in the manufacture of gas masks.—George Thomas sent the secretary a post card, with a picture of a very Russian looking church, saying,

I attend services here regularly every Sunday. Now, believe that if you can. The card was dated May 6, but has an utterly unintelligible post mark, so we guess Thomas is alive and happy "somewhere in Russia," probably near Moscow.

The Ten-Year-Book Committee reports that the books is *out! out!*, and has been sent prepaid to those who show on the records, as having paid their dues. The committee will be very glad to send a copy to any other member of the class who will write the secretary that he would like one. A few of the comments on the book, favorable and otherwise, may be interesting:

C. A. Anderson.—

Got in late last night from Washington, but had to sit down and look over the book. Although I got only a short way in it, it certainly looks good and fills a big niche. The fellows who have done the work merit great praise. There is much pleasure in store for leisure time in reading the various "Who's Whos."

Selskar Gunn.—

After all these years!!!

Casey Turner.—

Many congrats on book. It is a corker and worth ten times the price. Good luck.

W. G. Houskeeper.—

Congratulations. The book is a dandy. I have knocked off work for the rest of the day.

Arthur W. Wells.—

I think the book is a great achievement, and assessment reasonable.

C. R. Shaw.—

A good piece of work, for which the committee is deserving of praise. Accept congratulations.

One of our members, Asa J. Biggs, has passed away since the book was compiled. He died November 27, 1913.

Also items of interest and changes of address and occupation are noted as follows:

W. S. Sneeringer, Jr., writes:

Have changed my job since writing the "dope" for the Ten Year Book, and am enclosing check to pay for the latter—was glad to get it.

Not "talking shop," but if you ever have any figure work to do, put it up to the Monroe Adding Machine and it will just about solve itself.

Best luck to you and congratulations on the Ten Year Book.

The following is from W. S. Richmond, care of Hydraulic Power Company, Niagara Falls, N. Y.:

Herewith is a check for \$1.00 in payment for Ten Year Book, which I received today, and which I have found very interesting reading.

A year ago July 1, I left the federal government service to take up more specialized work in hydraulic and hydro-electric engineering. From July, 1916, to March, 1917, I was hydraulic expert in a lawsuit, involving a water power of the Illinois river. Since April 1, of this year, I have been engaged upon hydro-electric engineering work for the Hydraulic Power Company of Niagara Falls.

Please change my mailing address to that given above.

A. C. Gilbert writes as follows:

I am sorry I haven't some news to shoot in,—I have never done anything brilliant, and just plugging along is uninteresting. I guess there isn't going to be much commencement season anywhere this year. There are lots of khaki boys around New York, but not many that I have known have gone to the front. I don't work on war business, but the firm makes some drugs and medical supplies that get around to Uncle Sam.

Address Changes

Ayer, John, 308 Boylston St., Boston, Mass.—Ball, William G., 841 Boylston St., Boston, Mass.—Crosby, Gorham, 80 Maiden Lane, New York City.—Elliott, Frank S., 3 Devens Rd., Swampscott, Mass.—Goldthwait, Fred W., 110 Pearl St., Boston, Mass.—Keith, Henry H. W., 177 Fuller St., Brookline, Mass.—Lindsay, Ben E., care of Puritan Oil Co., Taft, Cal.—Lombard, Norman, 602 First Nat. Bank Bldg., San Francisco, Cal.—Mayer, Charles B., 1411 Fletcher Savings & Trust Bldg., Indianapolis, Ind.—Prescott, Albert C., Home—27 Chester St., Newton Highlands, Mass.—Riley, Francis B., Home—8 Laurel Place, Glen Ridge, N. J.—Robbins, Hallet R., Anyox, B. C.—Seaver, Samuel, 42 Scott St., Toronto, Can.—Sneeringer, William J., Jr., Monroe Selling & Calculating Machines, 905 Munsey Bldg., Baltimore, Md.—Stevens, Samuel S., Ogdensburg, N. Y.—Taylor, Winifred A., 195 Broadway, New York City.—Whitmore, James B., care of Westinghouse Lamp Co., Bloomfield, N. J.

1906.

C. F. W. WETTERER, Sec., P. O. Box 168, Tampa, Fla.
J. W. KIDDER, Asst. Sec., 50 Oliver Street, Boston, Mass.

In assembling class notes for the issues of the REVIEW which are published while the country is at war, we shall give precedence to items concerning '06 men who are serving their country.

In the death of Royal P. Heuter, Course II, the class is already brought to feel the effect of the war upon its membership. Although Heuter was not killed upon the field of battle, he had, by becoming a member of the Reserve Officers' Corps, displayed his

willingness to give his life to his country. The following brief account of his life has been submitted by one of the class who was as near to Heuter as any of the '06 men.

"On May 5 Royal P. Heuter, Course II, was killed in an automobile accident while returning from his office just prior to leaving for the Plattsburg Camp where he had been ordered as a lieutenant in the Reserve Officers' Corps. Heuter made a brilliant record as a student and for three years after graduation was assistant to Professor Haven in the mechanical engineering department. The next two years was spent at the Techniche Hochschule, at Charlottenberg, where he completed the work required for the degree of doctor of engineering. On returning to this country he was appointed instructor of machine designing at the Institute but left after a year and one half to join the Associated Factories Mutual Fire Insurance Companies where he was employed at the time of his death. Although very retiring, Heuter commanded the respect of those with whom he came in contact, both students and colleagues. In his profession he showed marked ability and was noted for his thoroughness and his industry. Characteristic of the man at the time of his accident, he had so left his personal affairs that every detail was arranged in anticipation of a long stay away from home.

"His views regarding the war were opposite to those held by most of us but this did not prevent him from offering his services to his country when the crisis arrived.

"The funeral service was held in the Congregational Church at Auburndale, Mass., which place had been his home for a number of years. 1906 was represented at the services by a number of the classmates. Heuter leaves a widow who has the sympathy of the entire class in her great loss."

The secretary takes great pride in reporting the following items and we know that the class as a whole honors the men who have already responded to their country's call.

The following two items concerning '06 men who are "doing their bit" are taken from *The Tech*:

William Couper, Course I, is now a major in the Quartermaster's Reserve Officers' Corps and is construction quartermaster in charge of the Columbia, S. C., Cantonment.—S. A. Greeley, Course XI, is civilian engineer doing government work at Battle Creek, Michigan.—George Hobson, Course I, is now a captain in the Engineers Reserve Officers' Corps and at last accounts was in Washington, D. C.—The *Telephone News* published by the Bell Telephone Company of Pennsylvania for May, 1917, included a photograph of a senior lieutenant U. S. N., with the following note:

May we introduce Senior Lieutenant P. E. Tillson, U. S. N., formerly one of our assistant engineers. He is in charge of the wire communications at the League Island Navy Yard.

F. R. Batchelder, Course VI, is one of the members of the Fifth Telegraph Battalion of the Signal Reserve Corps formed of employees of the New England Telephone and Telegraph Company.—F. B. Thurber, Course II, is now reported as a lieutenant on the U. S. S. "Vesuvius," Newport, R. I.—R. W. Rose, Course XIII, has left the Lalley Commercial Body Company to enter the naval reserve.

From the above it is evident that 1906 men have been prompt in rallying to the country's aid. In subsequent issues of the REVIEW we want all the war news involving '06 men that we can get by the censor. Every '06 man is hereby appointed a member of the Class Bureau of Intelligence for the collection of these news items which are of vital interest to all of us.

The secretary acknowledges a card from Mrs. and Mr. J. A. Root announcing the birth of Mary Katherine Root on Sunday, May 20, 1917. Root has recently been advanced to the position of chief chemist at Anaconda.

The *Engineering Record* recently contained the following item with regard to Royall D. Bradbury:

Royall D. Bradbury, consulting engineer, Boston, Mass., has closed his office and has become manager of the newly created structural department of the Clinton Wire Cloth Company, Boston, Mass. Mr. Bradbury has for about eight years been acting as consulting engineer of the Clinton Wire Cloth Company, meanwhile carrying on a general consulting engineering practice, chiefly in structural lines. He was for seven years a member of the instructional staff of the Massachusetts Institute of Technology, teaching courses in bridge design, theory of structures and reinforced concrete. As consulting engineer for the Clinton Wire Cloth Company he has advised on tests of new products and types of construction, has directed extensive investigations and, in general, assisted the company in perfecting its structural products.

Notice from Honolulu announces the formation of a partnership for the practice of architecture and architectural engineering under the name of Harper & Furer, with offices in the Kaukeolani Building. Furer graduated in the class of 1906, and a brief history of his activities since graduation is as follows:

William C. Furer is a graduate of the Department of Architecture, Massachusetts Institute of Technology, class of 1906, where he specialized in architectural engineering. After graduating he entered the employ of the American Bridge Company, New York, in whose engineering department he received thorough training in the design of steel structures, including bridges and buildings. He then accepted a position with the Bureau of Yards and Docks of the Navy Department, where he served for nearly five years at the New York Navy Yard, Key West and Pearl Harbor Naval Stations. During this time he had a varied architectural and engineering experience on a number of government structures, including hospital and shop buildings, coaling plants and a marine railway. At Pearl Harbor he was identified with much of the pioneer work in the laying out of street systems, docks, wharves, yard buildings, officers' quarters, etc. In 1911 he accepted a position as assistant county engineer of the County of Hawaii, and in 1913 a position with H. K. Bishop on the Waiohole Tunnel Project. In these two positions his work was confined almost exclusively to engineering problems. After this he spent a year with the Lord-Young Engineering Company, during which time he was identified with the erection of the Kaukeolani Building, the Kauai County Building, Officers' Quarters and Magazine Buildings at Pearl Harbor, etc. Since 1915 he has been

chief draftsman and engineer with the Department of Public Works and, as such, has had charge of the preparation of plans and specifications for most of the work recently performed by the Territory.

A letter recently received from Guy C. Simpson states that he is in the engineering business under the firm name of Parsons & Simpson, with offices at 61 Broadway, New York City.

There are still a number of '06 men who remain to be initiated into the venerable order of benedicts, but this number is fast being reduced, as, in addition to the many wedding announcements that have been quoted in recent news notes, we have three more:

On February 3, Miss Isabelle Sarah Sullivan was married to George Lyman Davenport, Jr., at San Diego, California. They are residing in Los Angeles, California, at 1429 West 55th street.—On June 12, Miss Clarice Burrell Doble was married to Herbert L. Williams at Quincy.—On June 23, Miss Helen Hunter of Arlington was married to Arthur T. Trowbridge. They will make their home at Spring Valley, Arlington.—We shall expect the remaining members of the class to follow suit in short order, or to give satisfactory explanations for any delay. Military or naval service will of course furnish an alibi until after the war.

Eighteen of the class attended the class dinner at Louis' on Commencement Day, Tuesday, June 12. They were as follows: Carter, Ginsburg, Griffin, Hotchkiss, C. E. Johnson, J. W. Johnson, Kasson, Kelly, Kerr, Kidder, Lampie, Lambert, Monaghan, Norton, Rowe, Tucker, Trowbridge and Wetterer.

At the conclusion of the dinner the crowd adjourned to the Boylston Bowling Alleys where several informal matches were enjoyed. The first match was made up of three five-man teams. The team composed of J. W. Johnson, Kasson, Trowbridge, Lampie and Norton outclassed the others with a score of 426 for the first game and 374 for the second game. As some of the crowd had to leave at the end of the second game two five-man teams were arranged and the team composed of Kelly, Wetterer, J. W. Johnson, Griffin and Kasson, proved better than the team made up of Monaghan, Kidder, Carter, Norton and Ginsburg, the scores being 388 to 369.

H. C. Elliot, Course I, has been ill with tuberculosis but, we are happy to state, is now on the road to recovery.

The secretary has received the following new addresses:

A. L. Bell, Course XIII, 1734 P. St., N. W., Washington, D. C.—L. N. Bent, Course X, Hercules Powder Co., San Diego, Cal.—Shields Burr, Course I, Etna Foundry and Machine Co., Warren, Ohio.—Edwin Frank, Course II, 40th St. and Parkside Ave., West Philadelphia, Pa.—A. W. Hempshall, Course II, 50 Church St., New York City, N. Y.—Capt. George F. Hobson, Course I, Engineer Reserve Officers' Corps, Washington Barracks, D. C.—W. A. Hotchkiss, Course VI, 34 S. Main St., Mansfield, Mass.—Wm. J. Lambert, Course IV, 279 Central St., Saugus,

Mass.—Roland E. Page, Course II, 911 Commercial Trust Bldg., Philadelphia, Pa.—A. L. Stevens, Course III, Aparadato 422, Caracas, Venezuela, S. A.—A. W. Talbot, Course VI, 114 Lenox Ave., Providence, R. I.—S. C. Wolfe, Course I, Mill and Chapel Sts., New Haven, Ct.—Nathaniel A. White, Course XIII, New York Ship Bldg. Co., Hampden, N. J.

1907.

BRYANT NICHOLS, *Sec.*, 10 Grand View Road, Chelsea, Mass.
HAROLD S. WONSON, *Asst. Sec.*, Supply Committee, Council of National Defense, Washington, D. C.

On June 12, a dinner of a few of the members of the class who are located near Boston was held at the Engineers Club, Boston. Those present were Charles E. Allen, Lawrence Allen, Ralph Hudson, N. A. Middleton, Bryant Nichols, E. H. Packard, Karl W. Richards, Donald G. Robbins, Edmund H. Squire, and Oscar Starkweather.

Several members of the class are directly serving the nation in connection with the war.

H. S. Wonson, who is right hand man for Mr. Rosenwald, chairman of the Supply Committee, Council of National Defense, and was formerly captain in the Eighth Regiment of the Massachusetts Volunteer Militia, has been commissioned a major in the United States Reserve Corps. Wonson was supply officer of the regiment at the Mexican border, and his experience is proving most valuable. He has oversight of the letting of contracts for supplies for the army amounting to approximately \$25,000,000 per week.—James L. Walsh, captain in the Ordnance Department, U. S. A., assistant to the chief of ordnance, Washington, has recently been promoted to the rank of major.—Captain Alexander Macomber, Engineers Officers' Reserve Corps, has been ordered to active duty and detailed on studies of searchlight illumination at the Engineer Depot at Washington.—Capt. George R. Norton, Ordnance Department, U. S. A., is also located in Washington.—J. H. Leavell and E. L. Mayberry, are at present in training at Vancouver Barracks, Vancouver, Wash., for the Engineers Officers' Reserve Corps. They both attended the camp at Presidio, San Francisco, for four weeks when they were sent to Vancouver. Mayberry has already received a commission as captain, Engineers Officers' Reserve Corps, class B.—O. W. Potter is at Presidio, in training for a commission in the Infantry Officers' Reserve.—Word received in June from Parker Dodge stated that he was then in the Officers' Reserve camp at Fort Myer, Virginia.—Breed Hall was in June, first lieutenant, cavalry, Officers' Reserve Corps, 1st Co., New England Regiment, Plattsburg Barracks, N. Y.—H. B. Hosmer, captain of artillery, Officers' Reserve Corps, was stationed at Fort Warren in Boston Harbor in August.—N. A.

Middleton left Boston in August for Plattsburg Barracks.—O. G. Fales, representing Gregg Co., has gone to Spain, carrying a lot of railroad material for his firm.

A son, Sidney D. Wells, Jr., was born to Mr. and Mrs. Wells on May 1, 1917.

Address of James E. Garratt is now 26 Thomaston St., Hartford, Conn.—Wheaton I. Griffin, 1525 Oneida St., Utica, N. Y.—Frank E. Hamilton, care of H. Koppers Co., Pittsburgh, Pa.—Emory G. Hukill, 2905 Coleridge Rd., Cleveland, Ohio.—Ralph J. Karch, 7 Orris Pl., Melrose Highlands, Mass.—William H. Macdonald, 5 Holten St., Peabody, Mass.—James P. Stow, 20 Union Ave., Westfield, Mass.—Sheldon P. Thacher, 847 Boulevard East, Weehawkin, N. J.—Parker R. Whitney, care of Standard Engineering Co., Ellwood City, Pa.—Oscar Starkweather is now general manager for the New England Road Machinery Co., 15 South Market St., Boston, Mass.

1908.

R. B. WEILER, *Sec.*, care The Sharples Separator Co., West Chester, Pa.

CHARLES W. WHITMORE, *Asst. Sec.*, care Foreign American Trading Co., 161 Devonshire St., Boston, Mass.

I. *On the Part of the Secretaries*

H. H. Damon, formerly assistant engineer with the New York Public Service Co., is now engineer in the Bureau of Yards & Docks, Washington, D. C.

W. A. TRACY

It is with regret that we again have to report the loss of another classmate.

William Alton Tracy died suddenly on March 5, 1917, while returning to his work. He had been in the best of health, and his death came as a great shock to all who knew him. He was engaged as superintendent of one of the mills of the E. A. Tracy, Inc., the firm of which he was a member, being in the woolen extract business. On September 25, 1907, he was married to Miss Florence G. Everest of Willimantic, Conn. A son, Alton Everest, was born to them on April 8, 1909, and a daughter Alice Josephine, on March 7, 1911. On June 5, 1915, the son died of embolism and two days later the little daughter died also. Another son, Arthur Pomeroy, was born on February 10, 1916, and this little year-old boy, the widow, his father, Mr. E. A. Tracy, of Southern Pines, N. C., his step-mother and a sister, Mrs. H. E. Thompson, of Manchester, N. H., survive him.

Mr. Mellville K. Weill, a classmate attended the funeral services which were held at the home on March 9.

II. Matrimonial

Paul H. Heimer was married June 6 to Miss Mildred Caddoo, at Dorchester. They will reside in Cleveland, O.—Joe Pope was married on July 11 to Miss Anna Charlotte Leavitt. Joe is with Stone & Webster, of Boston, on work at Utica, N. Y.—O. L. Golder was married on April 28 to Miss Emma Blakelidge Corbin of Everett, Mass.

III. New Addresses

Y. S. Bonillas, care American Metal Co., Casilla 125D, Santiago, Chile.—Harry Webb, 1747 Galloway Ave., Memphis, Tenn.—Kenneth C. Boush, care American Heater Co., Detroit, Mich.—John S. Barnes, 631 West Onondaga St., Syracuse, N. Y.—Dr. Eugene C. Howe, Denton Road, Wellesley, Mass.—Howard B. Luther, Mass. Inst. Tech., Cambridge, Mass.—Prof. Samuel H. Salisbury, Atlas Portland Cement Co., Northampton, Pa.—Lieut. Charles M. Steese, Coast Defenses of Oahu, Honolulu, Hawaii.—Prof. Edgar I. Williams, 180 Fairview Ave., Rutherford, N. J.—Chester B. Lambirth, 3360 Wilhelm St., Cincinnati, O.—Wilfred A. Morris, 23 Emerson Ave., Crafton Branch, Pittsburgh, Pa.—Charlton D. Putnam, 1010 Schwind Bldg., Dayton, O.—John Tetlow, 407 Essex St., Salem, Mass.—John C. Brooks, Hotel Weldon, Greenfield, Mass.—Burton W. Cary, 13 Fenwick Road, Winchester, Mass.—Ernest G. Genoud, 3 Rowell St., Uphams Corner Sta., Mass.—Russell T. Hyde, 22 Copley Hall, Boston, Mass.—Warren W. Karnan, U. S. F., D. Laboratory, 641 Washington St., New York City.

IV. Letters

Excerpts from letter of Tsok Kai Tse:

The Kwang Tung Electric Supply Co., Ltd., Canton, China, May 1, 1917.

To start out I think I better give you a general review of my past doings which may be of some interest to you. In 1914 when the second revolution broke out in Canton I was recalled by the Government from my trip of coal prospecting of which I have written you about. After order was restored I was instructed to discontinue the work and in turn I was appointed assayer for the Province. After holding that position for a few months I was made engineer-in-charge of the Kwang Tung Mining Department in the office of the Commissioner of Finance who was the head of that department. As the Government was so poor then that I couldn't get any fund appropriated for any work, I had to resign after three months' service. While I was in that position I am ashamed to say that I practically did no work. Just at that time I was offered the position of assistant manager of the above concern with a contract for three years and I bit. I, of course, hated to part with my profession but the country was so unsettled then what could one do but to accept any position which seemed more or less permanent. My contract has been running now almost two years so I have another year before I have to see new pasture, *i. e.*, provided nothing unexpected would come in the meanwhile.

Our station here has a capacity of 2200 KW and is consisted of Diesels and compound steam engines. All Diesels are 4 cycle, direct connected and we have nine in number varying from 160 KW to 350 KW in size. Our circuits are single phase, 60 cycles with 2200 volts as primary and 100 volts as secondary. All circuits are overhead as it is almost impossible to have underground cables in Canton for in

the first place the streets are narrow and in the second place the so-called sewage system is awfully poor and I may say rotten.

At present I am planning for a new steam turbo station and if it were not for the high price of coal, which is now \$21 per ton (long), Mexican currency, of course, I would have it well under way.

Wen is still professor of metallurgy in the Government University in Peking and I believe he is doing quite well. He wanted me to join the university just prior to my joining this concern. I had to decline his kind offer as I did not believe that I could ever make good in that line.

Our concern has a monopoly franchise for 22 more years to come for an area of 30 miles radius from the centre of Canton.

I may also advise that Canton has about 100,000 houses and we at present only have 8,000 connected up. In my estimation we ought to have at least 26,000 out of the 100,000 connected. Our present capacity is pretty well taxed and there is no room for extension in our present station so we must have a new one in the immediate future. What I am afraid is that we cannot get a good day load and I am working as hard as I can to attain our aim.

From Ralph Batchelder, 16 Via Veneto, Rome, Italy.

You are doubtless wondering what is keeping my interest in life so far away from the bi-monthly dinners and the bi-monthly trimming of the single men by the married men on the alleys.

Well, for the last six weeks I have been wallowing around in the mud and rain, wishing that the sun would shine again in "Sunny Italy" or that Rome would install a good train service that would get you somewhere in a reasonable length of time. The weather has been very bad lately, as I mentioned before, but not cold. Christmas day the thermometer stood at 60° Fahr. In fact I am told that this last rainy season has been the雨iest in years and I can believe it for I have never seen so many consecutive days of rain even in little old Boston. However, it is now over, I hope.

I have been busy for about two months upon a measured drawing of one of the old buildings here, the Palazzetto Spada, which I have about completed. I work at the American Academy here which has a fine new building upon the Janiculum hill with large studios, a good library and every facility for working.

There are about thirty men there, architects, painters, sculptors and classical students, many of whom are college graduates from Harvard, Dartmouth, Cornell, Penn, but none from dear old M. I. T. excepting yours truly. Carpenter, '09, is here in Rome having finished his terms at the Academy and is going back soon. We have a good tennis court but to my knowledge there are no bowling alleys in Italy. I play tennis when the weather permits and have improved my game considerably, which however is about the only thing I could do consistently as it would be hard to do much worse than I used to. We had a Thanksgiving tournament and Stevens and I got as far as the finals before we were smeared. Stevens is the director of the Fine Arts School of the Academy and a good tennis player. It is only fair to say that the teams were paired with one good and one not-so-good man to make it interesting. I will say also that until a short time ago I could usually knock the ball further than any one else which gave me a sharp recollection of how Burt Cary stood upon the banks of the pond at Oak Bluffs and vainly tried to drive his golf ball into it.

Rome is not very different now from what it was before the war. You don't see any more officers and only a few more soldiers on the streets than you would see in peace times but they are more in evidence in the small towns than formerly. In France the cities and towns are full of them but there are also many soldiers that are not French,—English, Australian, African, etc. The prices of almost everything here are more than they were before the war, but not in any greater proportion than at home from all I hear. Eggs are 4 cents each, lamb 20 cents per pound, and beef 35 cents. What I am most worried about is the scarcity of good pipe tobacco, although the cigarettes are good and cigars not bad.

I have a small apartment on the Via Veneto, the Commonwealth Avenue of Rome, which is very nearly the whole length of the city from the American Academy

but such is the size and compactness of Rome that I can walk across in about 40 minutes. It takes just as long to go by train as the train circles around the edge of the city. The principal street, the Corso, is so narrow that it is just like being in Boston to walk there at about five o'clock. It is not much wider than Winter street for most of its length.

I have not got quite to the point where I can speak the lingo as it is spoken here but I am beginning to show slight signs of intelligence and can usually make myself understand and get an idea of what is going on in the newspapers. To get the real "dope" I have to go to the bank or the Embassy and read the American papers which are about three weeks old when they arrive but which have lots of pep compared to the little four-page sheets here called newspapers.

Let me know what is going on as I am always glad to hear from the United States and would especially like to know how the old '08 bunch is behaving. I can see you all now in my mind's eye from Tim to Cookie, from soup to nuts as it were, with an assortment of such choice spirits as Winch, Sink, Ferrandi, Top, Burt Cary and all the rest too numerous to write but not forgotten.

With best regards to all.

1909.

CHARLES R. MAIN, Sec., 201 Devonshire Street, Boston.
GEORGE A. HAYNES, Asst. Sec., 530 Atlantic Avenue, Boston.

Mr. Theodore Grover, custodian of the Permanent Historical Exhibit, has asked for the loan of a copy of the group photograph of the class of 1909, which appeared in the 1909 *Technique*. The negative of this photograph has been destroyed, so that a print of this negative will have to be photographed to obtain another negative from which a print can be made for Mr. Grover. Any member of the class who would be willing to loan such a photograph will confer a great favor by communicating with the secretary.

At the informal class dinner held at the Engineers Club in March it was voted to hold bi-monthly meetings on the second Wednesday of the odd months, excepting during the summer, and the next meeting was therefore held on May 9 at the Engineers Club. With the meetings coming at a regular time, it is hoped that a larger number of men will be able to attend each meeting. There are somewhat over a hundred men located within easy traveling distance of Boston, and it seems as if the class ought to get out at least thirty-five to forty men once in two months. If you cannot attend the dinners, will you kindly mail the return postal cards to the secretary, especially if he does not have your latest address, so that he may keep in touch with all the men.

At the May dinner about ten men were present. It is to be regretted that a larger number were not able to attend as we had a very interesting talk on "Military Service" by Captain John F. Osborn of the First Corps of Cadets, which has recently been accepted by the government as the nucleus for the First Massachusetts Regiment of Engineers. Captain Osborn illustrated his informal talk with about one hundred lantern slides, showing scenes of camp life and the summer maneuvers, all of which added greatly to the pleasure of the occasion.

The class outing at Falmouth Heights last year turned out to be so enjoyable an event, it was decided to have another outing this year. This year the class went to the Hawthorne Inn at East Gloucester, and found a very attractive location, not too far from Boston. On Saturday morning of June 16, with four automobiles at their disposal, decorated with '09 pennants, nine of the boys set out from Sullivan Square, following the Revere Beach Boulevard to Lynn. Coming along by the Forbes Lithograph we discovered "Chet" Pope who had been camping along side of the road since early morning, so as to be sure and not miss us. At Swampscott two of the cars made a detour over to Marblehead, joining the other two again at Gloucester.

A little farther along we picked up "George" Wallis who had gone down on the B. & M., and headed us off at Pride's Crossing. Pulling up to the Gloucester station just as the noon train came in we found Clarence Maynard looking around for some familiar face. With just an even dozen, a few minutes later we arrived at the Hawthorne Inn, situated on a rocky point, overlooking the beautiful harbor of Gloucester.

In the afternoon everybody marched over to the golf links, where a ball ground was laid out and with the aid of a couple of "townies" for catchers and incidentally to chase the numerous foul tips, a real ball game was played between sides captained by Maynard and Dawes. Home runs were very much in order, and with a whirlwind finish in the ninth inning Maynard's team finally won by the close score of 19-18. The coaching of "Jim" Finnie and Maynard's clever base running were the features.

Shortly after returning to the hotel it started to rain, and it rained and rained and rained (seems to be our usual luck). Nevertheless with a private card room at our disposal and a sufficient stock of refreshments on hand, a very pleasant evening was spent playing smudge and bridge. About nine o'clock someone tried to break up the party with a very odorous cigar, otherwise the evening passed uneventfully. Hodsdon, who has a farm at East Gloucester, came over for dinner Saturday evening.

Sunday morning it still rained so that a motor boat trip as planned was impossible, but rain never dampens the '09 spirits and we got all the better acquainted, talking over experiences and reminiscences. An early start was made directly after dinner for the return trip to Boston, and as if to make up for the previous disagreeable weather, a short time after we had been on the road, the rain stopped and the sun came out, making the ride up the North Shore Drive in the cool afternoon, just about perfect.

In the previous number of the REVIEW the announcement was made of the death of Lieut. Thomas A. Tillard, I, of Peterfield, England. At that time details were not at hand, but through the courtesy of the British Territorial Force Record Office, the secretary has learned that Tillard was killed in action in France on

December 6, 1916. He was a member of the Norfolk Yeomanry, but was attached to the Royal Flying Corps. Major Mansell of the Territorial Force Record Office writes as follows:

"We have no official record of special work done by this officer but he appears to have been killed in an accident on returning from a flight at the front. By a curious coincident my confidential clerk, happening to be in a railway carriage soon after the occurrence, fell into conversation with a sergeant in the Flying Corps and this man mentioned to him what bad luck his section had as they had just lost their officer, who was a first class man and a jolly good chap and had done good work."

"This information is in no way official but it shows that the officer was appreciated. This officer I find was Lieut. Thomas A. Tillard."

The secretary has also received the following communication from another member of the class, Captain E. M. Bettington, VI, with reference to Lieutenant Tillard's death:

Your circular letter of the 12 April came to hand via South Africa a few days ago. Yes, poor old Tom Tillard's death was a great shock to me as we were great friends, and curiously enough we were in the same R. F. C. Squadron for sometime. I was moved a few months before he was killed, but the circumstances of his death are these:

He was out testing a Morane (which is a machine on which it is not safe to take any chances) and apparently without any warning he lost control and the machine nose-dived to earth from about 500 feet. Poor old Tom was killed instantly, the engine being driven right back as far as the passenger's seat (behind the pilot's).

He had a trick of throttling down his engine until the wind just supported him or so that he was not moving relative to the ground and so it is quite conceivable that if the wind velocity was below the flying speed (minimum) of the machine it would be unstable and loss of control result and being at a low altitude he was not able to regain control.

He did some very good work on the Flying Corps and was universally liked, his men seemed to be particularly fond of him and there were few who were sorrier to hear of his death than I.

Best wishes to all of my old friends.

H. L. Clark, I, is now in Chuquicamata, Chile, with the Chile Exploration Company, where he expects to stay three years.

Garnett A. Joslin, III, is now located in Salt Lake City, Utah, with the Salisbury Investment Company. He writes that he would be glad to see any of the boys who happen out that way.—The secretary has word that Eugene Connolly is to be congratulated upon the arrival of a little daughter some time in February.—B. A. Bowman, I, reports the birth of a son, David Lawrence, on February 13, 1917.—The secretary has also received an announcement of the birth of William Paxton Ayres, son of R. S. Ayres, II, on June 8, 1917.—Congratulations are in order for John Nickerson, II, on the birth of a second daughter, Barbara, on April 24, 1917.

Thomas C. Desmond announces the organization of his business under the firm name of Lindsley, Desmond & Company, Inc., 31 Nassau street, New York.

Announcements have been received of the marriages of two of the class:

Arthur B. Morrill, XI, married Georgia Gillmor Kepler of Pittsburgh, Pa., on June 9, 1917, and Laurence S. Winchester married Alice Ercle Hunt of Reading, Mass., on June 22, 1917.

It is with regret that the secretary announces the death of Henry Earle Myers, IV, in May, 1917.

It is desirable to have our records as complete as possible regarding men who enter the federal service, and the secretary hopes that the members of the class will forward promptly to him any information regarding themselves or others of the class, keeping in mind especially address changes and advancement in rank, with date of receipt of commission. If anybody is engaged in government work, although not a member of the army or navy, that information should be sent in also. Already a number of men have responded to the call to the colors, and others will follow. M. R. ("Molly") Scharff, XI, is now in Washington, D. C., in charge of the recently organized Washington Department of the Technology Clubs Associated, the objects of which are to increase the usefulness of Technology men in serving the nation to best advantage, and to furnish Technology men with information regarding opportunities for service. The headquarters of this department are at 908 Union Trust Building, Washington, D. C.—R. W. Riefkohl, II, who has been serving in the coast defenses of San Francisco since 1913, has been recently promoted to the rank of captain in the Coast Artillery Corps and on June 1 was attached to the staff of Major General Liggett, commanding the 3d Division, U. S. A., as aide-de-camp.—A letter has been received from Lazenby's father, saying that his son is now "somewhere in France" with the British Territorial forces.—C. D. Jacobs ("Jake") II, has recently received his commission as captain in the 1st Massachusetts Regiment of Engineers (formerly the First Corps of Cadets), and is attached to headquarters. Company B, with the headquarters staff, is now stationed at Ayer, Mass.—James J. Tobin's address is care of Const. Quartermaster Cantonment, Ayer, Mass.

The following men have gone into the Reserve Officers' Corps and are now in training camps:

Ernest A. Ware, XI, Plattsburg, N. Y.—Samuel Cabot, Jr., V, Plattsburg, N. Y.—Arthur L. Shaw, I, Belvoir, Va.

1911.

ORVILLE B. DENISON, Sec., 63 Sidney Street, Cambridge A, Mass.
HERBERT FRYER, Asst. Sec., 35 Federal Street, Boston, Mass.

Even as in April when your secretary prepared the copy for the class notes for the April REVIEW on the evening of the day on which war was declared, he finds himself now, on the evening of the

"dead center" day of July, *i. e.* the 16th, preparing a "story" for future release, which may be added to, in reality, through the operation of the draft during the intervening days before its appearance. However, the story shall here be chronicled as it *now* exists, thus leaving the future to reveal its own developments at a later date. All of which means, "It's a great life if you don't weaken!"—The "feature story" for this edition of the class notes is, of course, the chronicle of "1911's Sixth Birthday Party." This was arranged for the afternoon and evening of June 12, Commencement Day at the Institute. No particular observance was planned for the afternoon, the alumni in this vicinity being urged by the secretary to be present at the exercises, held in the wonderful duPont and Lowell courts at the new Technology. On account of the discontinuance of Tech night at the pops this year, it was desired by the Alumni Association heads that as many of the graduates as possible attend these afternoon exercises, one feature of which was the welcoming of the class of 1917 into the association. The following 1911-ers were present: J. F. Duffy, Roger P. Loud, R. G. Adams, C. A. Lineham and the secretary. Jim Duffy and the secretary had a happy hunch at the conclusion of the outdoor exercises, and calling upon Professor Hudson of the electrical engineering department embarked upon a personally conducted tour of that department. Believe the secretary when he says that any Course VI man who has not seen the new plant has something immense to look forward to.—As an aftermath, or better as a climax, to the day's festivities a class dinner was arranged at Louis' Cafe, Avery street, at 6.30 p. m., for which the nominal tax of \$1.50 per man was levied. Informal dress, of course, prevailed. Here is the catch-phrase the secretary used in advertising the dinner:

1911-R: C U 6-12 2.30 P. M. M I T! N 6-12 6.30 P. M. D N R!
(Apologies to Earl Carroll, composer of the lyric, "Q T U C I
M 4 U.") There were twenty-one men present at the dinner, as follows: Joe Aaron, Bill Buckley, Bill Coburn, Paul Cushman, Dennie, Jim Duffy, Bert Fryer, Ed Hall, Jack Herlihy, Harold Jenks, Ed Kennedy, Art Leary, Carl Richmond, Warren Simonds, D. J. Smith, O. W. Stewart, Ted Van Tassel, Ed Vose, E. J. Whitcomb, Frank Wood and Edgar Woodward. Informality reigned supreme throughout the evening, and you can well imagine that everyone had a good time, when the secretary tells you that the affair lasted until shortly after eleven, and only one man left before its close. Of course Frank Wood has only been married a little while, so he has to hurry home, don't you, Frank? At each man's place was found a leaflet of Tech songs, together with a mimeographed copy of a refreshingly clever song to the tune of "Maryland, My Maryland," especially composed for the occasion by Jim Duffy. Course VI men, especially, will remember that one of Jim's hobbies and forte in spare hours was to write parodies, but never has he done himself the justice that is apparent

in this latest product of his pen. The secretary is glad to be able to reproduce it here for the members of the class who were not able to be numbered among the "lucky twenty-one."

(Specially written for 1911 Sixth Birthday Celebration, June 12, 1917)

TECHNOLOGY

(Maryland, My Maryland)

J. F. DUFFY, '11.

1. Our country fair with strife was torn,
Technology, Technology.
Both North and South had vengeance sworn,
Technology, Technology.
Your founder's plan was met with scorn,
'Twas looked upon with hope forlorn,
The days were dark when you were born,
Technology, Technology.
2. No rich endowment started thee,
Technology, Technology.
You felt the pangs of poverty,
Technology, Technology.
But better far than gold could be,
Was that unswerving loyalty,
So freely giv'n by faculty,
Technology, Technology.
3. Those students bold who to you came,
Technology, Technology.
Beheld no glamour round your name,
Technology, Technology.
With faith profound, they weighed your claim
They vowed that they would bring you fame,
And all who followed did the same,
Technology, Technology.
4. Around your feet you saw them kneel,
Technology, Technology.
With Truth you answered their appeal,
Technology, Technology.
You labored with untiring zeal,
With wisdom's key you broke the seal,
Of service for the common weal,
Technology, Technology.
5. From North to South, from East to West,
Technology, Technology.
In every state your name is blessed,
Technology, Technology.
It mattered not what were the test,
Though failure came to all the rest,
Your loyal sons e'er did their best,
Technology, Technology.
6. At Panama their prowess shows,
Technology, Technology.
They proved supreme o'er nat'r'al foes,
Technology, Technology.

They harnessed Mississippi's flows,
Reclaimed the Catskill's melting snows,
Where'er they go, there Progress goes,
Technology, Technology.

7. Your works are known in every field,
Technology, Technology.
Your founder's purpose stands revealed,
Technology, Technology.
Emblazoned on your lustrous shield,
Your motto shows the pow'r you wield,
To "Mind and Hand" must all things yield,
Technology, Technology.
8. Oh may we each fulfill our part,
Technology, Technology.
And emulate your humble start,
Technology, Technology.
Oh may thy glory ne'er depart,
Remain supreme as now thou art,
Beloved by every loyal heart,
Technology, Technology.
9. Man's greatest task now tries your soul,
Technology, Technology.
That Prussian tide must backward roll,
Technology, Technology.
Though life itself may be the toll,
We pledge ourselves to reach the goal,
That you may live on Honor's scroll,
Technology, Technology.

So impressed is the secretary with the spirit of the song that he is attempting to have it added to the Institute's list of songs. While throughout the evening a lot of songs were sung, with the secretary officiating on the piano, it remained for this song to feature the evening, there being no diminution in the spontaneity and sincerity of the singing all the way through the nine verses. After dinner had been served, the secretary reviewed in brief the condition of the class treasury, showing that at present there is a workable balance of fifty-odd dollars. This he considered creditable, for it had entailed but two assessments, each for one dollar, since graduation. In the discussion which followed it was voted that from now on it would be the best policy to have yearly dues of one dollar, so that special assessments, for example, for reunions, ten-year books, etc., will not be necessary. If there is any serious objection to this system, the secretary will be pleased to hear of it. The secretary next announced that no set program had been arranged for the evening, as it was thought best to make this a strictly 1911 Birthday Party. It was planned, however, to have each man render an account of his stewardship during the six years that the class has been out from the 'Stute. The secretary arranged the names of those present in alphabetical order, numbering them from 1 to 21. Twenty-one numbered slips of paper were

then prepared, and he put them in his pocket. No "master-key" was needed for the draft! As each number was pulled out, the corresponding man gave his "spiel." These speeches proved immensely enjoyable, and the secretary will give them in condensed form now, in the order in which they were told.—Frank Wood, II, spent two years and a half in Brooklyn, N. Y., with the Brooklyn Union Gas Company. He then secured an opening here with the Boston Consolidated Gas Company and is now with the latter concern.—E. J. Whitcomb, X, immediately after graduation joined the forces of Raymond and Whitcomb, the big travel concern. For two or three years he was on the road as a tour conductor, but since 1914 has been office manager of the new branch office of the company on Temple place, Boston.—Jim Duffy, VI, started with the American Steel and Wire Company at their Worcester plant, being first connected with the Electric Cable Works. After a couple of years in the manufacturing end he was appointed fuel engineer for the South Works of the concern, where he was busy keeping up the efficiency of the operating units. In 1915 he joined forces with Reed-Prentice Company of Worcester, manufacturers of metal-working machinery. After one year of efficiency work he was made assistant superintendent of the operating department, which position he now holds.—Ted Van Tassel, X, finished his technical education at Pratt Institute, Brooklyn, where he specialized in the course for tanners sanctioned by the National Tanners Association. After completing this course he was for two years assistant superintendent of the Stoneham (Mass.) Tanning Company. He next spent a little time with wholesale chemical house in New York, traveling among the tanneries. Now he is at the head of the Van Tassel Tanning Company in Stoneham, where he is busily engaged in converting the leather from various tanneries into one common product.—Carl Richmond, I, was with the Highway Commission here in Massachusetts until January 1, 1915, upon which date he decided to turn over a new leaf and enter politics. He chose his "home town," Revere, Mass., for his political career and for the first year was city engineer. He was next appointed superintendent of public works for three years, and street, water and sewer commissioner for a like period. He has also been secretary of the school committee for two years. Oh, yes, there are *other* officials in Revere, but Carl is the big noise!—Bill Buckley, I, spent two years with the Lucius Engineering Company as operating superintendent. Then followed a long stretch of valuation work with the B. & A. R. R. After a few months with the Boston Transit Commission on subway work, he started on his present job in running out drainage systems for the city of Lynn, his home town.—Ed Vose, XI, spent a year after graduation as assistant in civil engineering department at the 'Stute. Then he joined Stone and Webster on inspection work, first going to Worcester, Mass., where, he said, he deserved

all sorts of credit for surviving the ordeal of living with Charlie Barker and Dennie. Having survived, however, he moved on to Barberton, Ohio, during which stay he lived with Larry Odell in Akron. Moving thence to Victor, N. Y., he saw a lot of Ed Crowley, erstwhile 1911 member. Ed, by the way, now claims affiliation with 1912, but it will doubtless be pleasing to his 1911 friends to read in the '12 notes of his marriage this spring. Returning to the Hub from the Empire state, Eddie Vose forsook engineering to join forces with his father in the Vose-Swain Company, engravers and printers. After a little of this line he spent a year in the inspection department of the Underwriters Bureau in Boston, leaving at the end of this period to go into insurance with Robert Boit and Company of Boston. Verily Ed did move!—Edgar Woodward, VI, spent his first year out with the New York Central in New York state, but contracting an illness at the end of the year, he hied himself to his father's farm for four months' recuperation. In October, 1912, he joined the Boston and Maine Railroad as machinist and then schedule man in their Lowell machine shop. He then was sent to Billerica in their new car shops, where he spent a year as general inspector. He is now assistant air-brake foreman for the B. & M.—Warren Simonds, I, started with the Aberthaw Construction Company in Lawrence. He, however, decided to go into business for himself and established an architectural office and express business in his home city, Marlboro, Mass. He also told his classmates that he had recently started a cider mill in addition, causing many lips to smack, indicative of a desire.—D. J. Smith, V, has been with the American Sugar Refining Company in their laboratory connected with the plant at South Boston. His present position is assistant house chemist on products through the factory. In response to a request of his classmates he told briefly but most interestingly the story of the sugar industry, closing with a general invitation to his classmates to visit him at the South Boston plant, where he would be very glad to show them around.—Jack Herlihy, II, spent a few months with the Aberthaw Construction Company, followed by a two-year stay with the N. Y. N. H. & H. R. R. as inspector of materials in the East. Since that time he has been in the inspection of materials department of the Boston Edison Company.—Joe Aaron, VI, took the twenty-eight months' apprentice course with the Westinghouse Company immediately after graduation, and stayed with that company three and a half years. Most of this time was in the shops and test floor, where he ultimately specialized in factory management, cost and production work. Returning to Boston he went down to the Fore River plant, assisting on the remodeling of a power plant, after which he did some appraisal work for the Bay State Street Railway. He next took a course in commerce and finance at the Boston Y. M. C. A. and is now doing efficiency work and filling the job of assistant superintendent for

the Carpet Belting Company here in the Hub.—Harold Jenks, VI, finished his course with 1912, but has retained his affiliations with 1911. After leaving Tech he went with the C. H. Tenney Company, starting on street and house lighting at Hyannis, Mass. He next went to Vermont for the same company, first on a water-works construction job at Montpelier and then on a 22-mile transmission line from Barre. He spent a little while then, on leave of absence, with the Twin State Gas & Electric Company at Hoosick Falls, N. Y. Returning to the Tenney Company he went to Montpelier, Vt., on some street lighting work and then on overhead inspection work in Bristol, R. I. He is at present resident engineer at Malden, engaging most recently in the construction of a 22,000-volt system of 18 to 22 miles emanating from Malden.—Bill Coburn, I and XI, spent a year at the 'Stute after graduation, part of the time as assistant to Professor Allen in the civil engineering department and the balance as assistant to Professor Dewey in banking and finance. He then joined the State Board of Labor and Industry, in charge of an inspection force. Then he served a year and a half with the American Woolen Company in Lawrence, Mass., as sanitary engineer. He is now a bond salesman with Marshall & Company, Bankers, of Boston. He has recently been elected a director of the P. J. Harney Shoe Company of Lynn. Also, dear reader, since that dinner the happiest event in Bill's young life has taken place, due chronicling of which appears later on in these notes.—Ed Hall, II, started out on inspection work with the Factory Mutual Company of Boston. In April, 1912, he was chosen to assist John R. Freeman, '76, in securing data for the new Technology layout. Other 1911-ers to be with him were O. W. Stewart and Chet Pepper. Throughout a period of nine months he visited in succession Rensselaer, Cornell, Universities of Minnesota and Illinois, West Point, Annapolis and the Bureau of Standards in Washington. Returning for a few weeks to the Factory Mutual Company, he joined Willett, Sears & Company, handling insurance and fire and accident prevention for a year and a half. He then went to an offspring of Willett, Sears, namely the American Felt Company, doing research work to determine the best uses of felt. After six months he transferred to the Manufacturers Equipment Company, after which he became interested through a friend of his in the manufacture of a floor preservative. So he started as New England agent for the Tylose Contracting Company. He "got out" just in time, he said, before the city of Boston had its "Tylose scandal." He then went on accident inspection work for the Massachusetts Employers Insurance Association, spending also six months in Philadelphia in the National Prevention Department. He next joined the Norton Company in Worcester on accident prevention work, returning thence to the Massachusetts Employers Insurance Association for more accident prevention work. Since the last of 1916 he has been with the Hood

Rubber Company in Watertown on efficiency work.—O. W. Stewart, I, has been engaged on fire protection and insurance work with the Factory Mutual Company here in Boston ever since graduation, except for the nine months in 1912 he spent with Hall and Pepper working on the new Technology building possibilities for Mr. Freeman, '76. He delighted his hearers by giving an excellent account of the work his company does.—Paul Cushman, VI, joined the instructing staff of Trinity College in Connecticut, spending two years there teaching drawing and doing some construction work on the side. He was with the Water Department in Hartford one summer. He then crossed the continent to San Francisco, where he spent a little time on a hydro-electric plant, soon joining forces with the Pacific Telephone & Telegraph Company as rate engineer. After two years he journeyed back to New York, where he joined the commercial engineering department of the American Telephone & Telegraph Company. Last September he came on to Boston to teach Power Plant Practice at Wentworth Institute.—Dennie, VI (it's really me, but these notes must be kept impersonal), started out with the American Steel and Wire Company in Worcester, spending three years and a half there in the operating department of the Electric Cable Works. Following this he spent several months as representative for Burgess, Lang & Company, Boston bankers, in Worcester county, working out from Worcester. He then secured an opening with the Norton Company of Worcester, manufacturers of abrasives and grinding wheels, in the mechanical division of their laboratories. The auto accident in the middle of October rendered him *hors de combat* until New Year's, 1916, at which time he rejoined the Norton Company forces. Shortly afterwards he received an offer to return to his original line with the Simplex Wire and Cable Company at their Cambridge factory. This offer he accepted, and he is at present with that concern as efficiency engineer, engaged in the standardization of practice and installation of a bonus system.—Art Leary, XI, said that he had the wanderlust when he left Tech and hiked West, finally stopping at St. Paul, Minn., where he engaged in some reservoir construction work as foreman. He next went to Portland, Ore., meeting Killion, '11, en route at Butte, Mont. In Portland he was timekeeper on a new building job. At the conclusion of this job, he said, he had just \$124.55, so decided to travel as long as it lasted. He went to Tacoma and Seattle, then to San Francisco on the outside line. When he finally reached Chicago he had the exact fare to New York, with enough left over to eat a bite, or perhaps six bites, at Childs'. With his pockets empty, as a result of his wanderings, he again met Killion, who loaned him ten dollars to get home to Boston. Returning home and finding himself cured of his wanderlust he got a job with the Transit commission here in Boston on subway construction. He then went out of engineering into business with the J. L. Mott

Iron Works, where he has been specializing in the sale of plumbing fixtures for the past four years. He expects this month to join the sales force of the Sanitas Manufacturing Company of Wakefield, a branch of the Mott company.—Ed Kennedy, III, finished his education at Ohio State University. He then engaged in mining work with the Fairmount (West Va.) Consolidated Coal Company. Two years ago he joined the testing department of the A. D. Little Company in Boston, and is now in charge of the fuel department with that company.—Bert Fryer, VI, prefaced the account of his stewardship by a few good-natured slams at the classmates who had spoken. First he said he would apologize in advance for anything he might say. Then he entertained the boys with trite remarks concerning each. He also spoke of his being in Cleveland at the time of the meeting of the Technology Clubs Associated in April. As for his own experience, he spent almost two years with the B. F. Sturtevant Company in the drafting room and economizer department. Then for a short while he and another man started in business for themselves, selling power plant supplies. After a little of this however he secured his present position in sales engineering work for the Babcock and Wilcox Company in New England, with headquarters in Boston.—It seemed to be the concensus of opinion that this plan of making each man a speaker of his own, provided a most enjoyable time for all concerned. It also seemed to be agreed that quarterly dinners should be arranged for the 1911-ers around Boston during the coming year. If you are in Boston for any length of time, be sure and let the secretary know, so he can at least have you on the temporary "Boston and vicinity" mailing list.—Now for the up-to-date news items concerning 1911 members. Another 1911 junior member has been added to the roll. Mr. and Mrs. O. W. Stewart announce the arrival of Oswald 2d on May 7, weight, eight and seventy-five one-hundredths pounds. Hearty congratulations to you both, O. W.! How closely did you apply "precision of measurements" to that 8.75 you announced?—The following clipping from the Arlington (Mass.) *Advocate* of June 8 is of interest:

At Billerica, June 2, Miss Mildred Viola Johnson of Portland, Me., and John R. Bowman of Billerica, a graduate of Technology in 1911, were married at the groom's father's home, by Rev. William L. Walsh of the First Parish (Unitarian) church. Marvin S. Bowman of Arlington, a cousin of the groom, was the best man. Miss Helen Learoyd, of Danvers, was to be bridesmaid, but was unavoidably delayed in reaching Billerica at the appointed hour, so Mrs. Marvin S. Bowman (also a bride) performed the duties as such.

Mrs. Bowman has been a student for the past three years at the Massachusetts Normal Art School. Mr. and Mrs. Bowman will reside at 35 Glendale street, Everett, where Mr. Bowman is a draftsman with the New England Structural Steel Company. Immediate relatives of both parties were present. The bride's two brothers and one sister were able to be present, also Mrs. G. W. Davis and daughter, Miss Eleanor, Mr. and Mrs. J. Gershom Johnson, all of Portland, Me., Mr. and Mrs. Warren Mann Johnson of Pleasant street and Concord avenue, Lexington.

Best wishes to you from your classmates, J. R.—Another wedding brought to the attention of the secretary is that of Edgar C. Savage, II, and Miss Harriet E. Crosby on June 8. Once again hear congratulations!—On the evening of June 20 in Pelham Heights, N. Y., occurred the wedding of Miss Dorothy Grace Davis, daughter of Mr. and Mrs. Lewis K. Davis, to William Haskins Coburn, son of Dr. and Mrs. F. W. Coburn of Boston and Jefferson, Me. May you and your wife have every possible happiness, Bill!—Another June wedding was that of Miss Katherine Spratt Whalen to Irving White Wilson on the twenty-seventh of June at Massena, N. Y. That's the good boy, Bunnie. May you have all of joy and happiness that the world has the power to give!—On Independence Day Mr. and Mrs. William Sidney Stone of Providence, R. I., announced the engagement of their daughter, Barbara Russell, to Willis Kennedy Hodgman, Jr., son of Mr. and Mrs. Willis K. Hodgman of Taunton. Another Course II man on the right road!—The secretary has also received a belated announcement of the birth of James Curtis Simonds on February 18. Congratulations to you and Mrs. Simonds, Warren!—To date the secretary has received but eight announcements of 1911 men performing military service. From time to time more will crop up, but only eight to date.—Phil Caldwell, I, has received a commission as first lieutenant (supply officer) in the aviation section of the Signal Officers' Reserve Corps.—Louis Grandgent, IV, is likewise a first lieutenant in the Officers' Reserve Corps at the Plattsburg barracks.—Frederic Carr Jewett, I, is quartermaster of the 10th Deck Division (Marblehead) on board United States Ship "Nebraska."—Heine Kenney, yeclpt George C., I, is at the Government School of Military Aeronautics at M. I. T.—C. P. Kerr, II, has joined the staff of the aero engineering division of the Aviation Section of the Signal Corps.—Dick Ranger, VIII, is in Company 7, New England division, at Plattsburg and writes:

This soldier business is great stuff, when you feel it's all for the cause.

—S. H. Scribner, I, has joined the R. R. Corps of Engineers as sergeant.—Bob Wood, VIII, has joined the U. S. N. R. F. and is at the Naval Air Station at Squantum, Mass.—Send in news items concerning war activities, boys, whether they are your own or those of a classmate.—When the announcements concerning the birthday dinner were sent out (they being sent only to those within 100 miles of the Hub), a space of three lines was designated on the return card for "a line or two for the REVIEW notes." Follow the gleanings: Philip S. Avery, IV, is practicing "general architecture" ("very general," he says) under his own shingle at 185 Devonshire street, Boston.—Charlie Barker wrote concerning the dinner (from "Somewhere in the West"):

Sorry to disappoint you, but Iowa calls me—not to mention Nebraska, Kansas, and others. Tell Bert Fryer to buy a drink for the crowd for me and don't let him make it French vichy even if we are with the Allies!

Sad to relate, Chas, the "pardon came too late." But Bert did very well by the boys, possibly having a premonition of your request.—G. Arthur Brown, X, wrote from Manchester, N. H.:

Sorry I can't come. Best wishes for that birthday party.

Bill Buckley said:

If C U 6-12, N 6-12 6.30 P. M. are submarines, put me down as captain on Fryer's boat.

Lloyd Cooley, X, wrote from Grayling, Mich., whence his card was forwarded from Brookline:

Just took a run around to Chicago and Duluth. Saw Ike Pearl, '10, at a way-station in North Wisconsin looking for iron ore. Busy on munitions, as usual.

Oh, here's another "arrival," witness the following from Henry Dolliver, I:

Sorry I cannot attend, but I am in Greenfield until September for Aberthaw. New arrival in our house—Marguerite Elizabeth on April 29. Mother and daughter doing finely.

Splendid, Henry!—Here's how Jim Duffy replied:

This birthday dinner desire reminds me of hay fever. It comes on me every summer and the only way I can overcome it is to pack my bag and hie me to the big burg.

Jim is a loyal 1911-er, if ever there was one. Always ready to do his bit, in any way possible, and ever coming down from Worcester for any local 1911 event. More power to you, Jim!—Franklin Osborn, 2d, III, wrote that he was temporarily in Eustis, Quebec, trying to relieve the pyrites shortage due to submarine blockade of Spanish ports.—Harold Robinson, I, has left the Norton Company to join Crompton & Knowles, loom makers, also in Worcester.—Word was received by the secretary that W. J. Seligman, III, is now in Shanghai, China, on business for Hartmann Brothers of Boston.—Abe Shohan, VI, accepted for the dinner, but for some unexplained reason did not appear. Here are his remarks:

Have just returned to the Hub from Panama. Boston looks good after my long absence. The new buildings are wonderful. Have no trouble dodging jobs.

Pedro de Souza Leao, VI, our Brazilian "live wire," comes to time with another breezy letter from his homeland, viz.:

After a long trip to the south of Brazil and Argentine, I have finally returned home. Will go now on a commission to explore and survey the headwaters of two Amazonian rivers in mineral deposits.

I have received the November and December numbers of the REVIEW, the first ones I ever had the pleasure of reading since I left the U. S. Yet no Tech man is more anxious to enjoy such pleasure than yours cordially and at your service, etc.

Once again the secretary urges any 1911 men who ever knew Pedro to write him a line of good cheer. You'll find his address in the "address changes" at the end of these notes.—Paul Kellogg, IX, writes from Buffalo, N. Y., that he is still with the Larkin Company there and at present is busy buying paper "some ticklish job

at the present time."—Has anybody any idea where A. S. Hallett, Jr., III and VI Sp., is at the present time? An uncle of his sent back the reply card recently sent to Hyannis, saying: "Last heard of him in October, 1912. He was about to enlist in the U. S. Navy." Also who knows where Stanley E. Bates, I, is? Don't all speak at once!—The secretary some time ago received a self-explanatory letter from Mr. Theodore Grover, custodian of the Permanent Historical Exhibit, recently organized at the 'Stute. To date he has been unable to locate a print of the picture of the class taken for *Technique*, but is taking this opportunity to find if any classmate has such a picture, which he is willing to loan to Mr. Grover. If you have such a picture, send it with an explanatory note to Mr. Grover at Tech, thus saving time. Witness the request:

We are collecting for the Permanent Historical Exhibit of the Institute, photographs of the various classes. I am taking the liberty to ask if your class will kindly loan us a photograph of the class of 1911. It will be carefully cared for and returned as soon as copied.

Anyone qualify? Good, send it right in. It won't do any harm if more than one reaches Mr. Grover.

WAR EXTRA!—Here are some additional notes concerning 1911 men. H. C. Manley was transferred from the Plattsburg training camp in July to the Springfield Armory, for work in the machine gun school.—Among Tech men receiving commissions at the first Plattsburg camp are the following '11-ers: Capt. L. W. Perrin and Capt. Louis Grandgent in the Infantry section of the O. R. C.; Lieut. A. F. Underhill, Jr., and Lieut. R. H. Ranger in the Field Artillery section of the O. R. C.—The following 1911 men have qualified for the Engineers' O. R. C. at the American University, the "advanced Plattsburg" in Washington: Lieuts. J. J. Devlin, H. J. Lord, C. H. Sutherland, R. W. Lewis and A. W. Yereance.—At Fort Leavenworth we find Capt. H. E. Babbitt. While at camp he qualified as expert rifleman and had the highest score in his company.—R. H. Lord, Chicago, has been commissioned ordnance lieutenant in the O. R. C.—In closing these postscript notes, the secretary wishes to announce that he and Mrs. Denison have moved to 18 Warwick Road, Belmont, where they will always be most happy to greet any or all 1911-ers. Telephone, Belmont 1028-W. Take Waverly car from Harvard Square, get off at Common street—third street on right off Common, then third house on left. Everybody welcome!—Now for the address changes!

Address Changes

Ralph G. Adams, 43 Dedham Ave., Needham, Mass.—D. P. Allen, 1645 Livingston St., Des Moines, Iowa.—John F. Alter, Technology Club, New York City.—Philip S. Avery, 185 Devonshire St., Boston, Mass.—E. J. Batty, 740 Grosvenor Bldg., Providence, R. I.—R. T. Boyden, Int. Com. Com., Washington,

D. C.—Austin W. Brooks, Ancon, Canal Zone.—W. H. Coburn, care of Marshall & Co., 70 State St., Boston.—Raymond T. Cole, 3064 Fairfield Ave., Bridgeport, Conn.—Samuel H. Cornell, "The Robeson," 2nd and Penn Sts., Camden, N. J.—Paul A. Cushman, Wentworth Institute, Boston.—Ralph S. Damon, 13 Bigelow St., Cambridge, Mass.—H. F. Dolliver, 76 Elm St., Greenfield, Mass. (until September).—Jas. F. Duffy, P. O. Box 394, Worcester, Mass.—S. B. Dyer, 10 Whitcomb St., Waverly, Mass.—K. W. Faunce, 136 Corey St., West Roxbury, Mass.—Donald N. Frazier, Amer. Mut. Lia. Ins. Co., Commercial Trust Bldg., Philadelphia, Pa.—Joseph C. Fuller, 491 West Ave, Sewaren, N. J.—A. L. Gardner, 354 Union St., South Weymouth, Mass.—Louis Grandgent, 107 Walker St., Cambridge, Mass.—Harold M. Hallett, 136 Federal St., Boston, Mass.—Naval Constructor Ralph T. Hanson, New York Shipbuilding Corp., Camden, N. J.—J. F. Harrington, 144 Lancaster St., Albany, N. Y.—Samuel L. Hayes, Lanett Bleach & Dye Works, West Point, Ga.—Howard P. Ireland, 139½ Owasco St., Auburn, N. Y.—Frederic Carr Jewett, care of New York Postmaster, U. S. S. "Nebraska," New York.—Max Kushlan, Room 2001, City Hall Square Bldg., Chicago, Ill.—Pedro de Souza Leao, Rua Izabel 45, Manaos, Amazonas, Brazil, S. A.—Harold S. Lord, Ruggles Machine Co., Poultney, Vt.—Lieut. John D. MacKenzie, A Co., 185 Cape Breton High., Canadian Inf., care of Army P. O., London, England.—O. C. F. Meisel, Treas., Meisel Press Mfg. Co., 944 Dorchester Ave., Boston.—Chester T. Morey, 40 Summit Ave., Providence, R. I.—Walter I. Phillips, 104 Elmwood Ave., Wollaston, Mass.—Carl G. Richmond, 26 Hichborn St., Revere, Mass.—Eric H. Ridstrons, Western Machine Co., 248 Fourth St., Milwaukee, Wis.—John A. Scoville, Box 537, Donora, Pa.—Warren J. Simonds, 12 Warren Ave., Marlboro, Mass.—Frank G. Smith, 282 Willow St., Waterbury, Conn.—Harold A. Smith, 12 Pennacook St., Manchester, N. H.—William C. West, Lytton Bldg., Chicago, Ill.—Frank A. Wood, 34 Linden St., Arlington Heights, Mass.—E. L. Woodward, North Billerica, Mass.

1912.

JOHN E. WHITTLESEY, Sec., % Walworth Co., So. Boston, Mass.

I suppose by the old laws of big and little A. D. and weird law of chance, 1912 will soon be doing its little bit. As we all are or should be in the draft so we will probably have to. Just another one of those things, especially when one's number comes in the first thousand and the physical examination coming soon. What others are filing their exemption claims?

From the *Boston Advertiser*, June 19, 1917:

The wedding of Miss Dorothy Grace Davis, daughter of Mr. and Mrs. Lewis K. Davis, and Williams Haskins Coburn, son of Dr. and Mrs. F. W. Jackson of this city, will take place in the Davis home at Pelham Heights, New York, tomorrow evening.

Miss Davis' only attendant will be Miss Margaret Stevens of Beacon street, and Leavitt C. Parsons of Brookline will be the best man. Rodman M. Price of Winchester and William Davis, a brother of the bride, will act as ushers. Miss Davis is a graduate of Miss Winsor's school and Mr. Coburn is a Massachusetts Institute of Technology man.

From the *Evening Record*, July 14, 1917:

Mr. and Mrs. John T. Harper of Great Barrington announce the engagement of their daughter, Miss Mildred Pixley Harper, to Edwin Charles Holbrook of Brooklyn, an instructor at the Massachusetts Institute of Technology. The wedding will take place in August.

These winners from the stories they told at reunion, all seem to have had some varied experiences, which also raises the question, how many are still following their line of study at the "Stute." R. S. Cox writes:

Since leaving the Institute I have done only a little mining—Silver Plume, Colorado, and Mammoth, California. Otherwise I have been in a lot of different things, and for the past year here in Baltimore with the Bartlett-Hayward Company, making shrapnel fuses—Russian, British, and at present United States.

I am going to Washington and hope to pass the requirements for the Aviation Corps.

I have come to the conclusion that we all talk a good deal and not always have much to say. Exceptions are always agreeable.

Under date of June 12, the *Farmer* of Bridgeport, Conn., prints the following:

"War Mathematics and Explosives will be the subject of a lecture by George W. Mitchell, M. E., instructor in mechanical drafting and applied mathematics in the Y. M. C. A. evening school. While the lecture will be given for the special benefit of the students in the classes, it is understood that all men and young men interested in industrial education are welcome to attend. This is the fourth in a series of lectures by Mr. Mitchell on industrial topics. At an early date, a lecture on "The Highways of Commerce" will follow. In it Mr. Mitchell will describe the principal railway systems, and will outline the oceanic trade routes of the world. Mr. Mitchell is a graduate of the Massachusetts Institute of Technology, employed by the U. M. C. Co.

Address Changes

George H. Abel, 206 Stewart Ave., Ithaca, N. Y.—Robert B. Brownlee, 833 Main St., Dorchester, Mass.—James A. Cook, 756 Putmans Ave., Brooklyn, N. Y.—Paul G. Frazer, 311 Hodge St., Utica, N. Y.—L. H. Goodwin, West Fairlee, Vt.—Walter P. Green, 13 Plant Rd., Waterbury, Conn.—George A. Robinson, 226 8th St., Washington, D. C.—Frank E. Stan, Chanaral, Chili, S. A.—U. P. Yaconbyan, 514 St. 13th St., Philadelphia, Pa.

1913.

F. D. MURDOCK, Sec., 605 Bird Avenue, Buffalo, N. Y.
A. W. KENNEY, Asst. Sec., M. I. T., Cambridge, Mass.

The secretary promised in the annual letter that a reprint of these notes would be sent to every man in the class. It developed just after the letter was sent out that the copy would be due

much earlier than expected and, therefore, it may not be possible to include the news we hoped to get in the replies to the annual letter. During this time, when events are happening so fast, we shall provide some means of keeping the class posted on the doings of the men, particularly those who enter military service and are sent abroad. The class marriage market seems to have suffered slight depression. There are a few, however: The engagement of Mabel Agnes Leighton of Marlboro, Mass., to W. R. Mattson, I, is announced.—Mr. and Mrs. Thomas G. Dean, New York City, have announced the engagement of their daughter, Miss Dorothy Dean, to Ralph B. Kennard. Miss Dean is a graduate of Barnard College, 1915.—A very original little folder executed in Henry Glidden's artistic manner, announces the birth of Dorothy Glidden on May 15, weighing 7 pounds.—Gene N. Burrell married Ruth Hull of Somerset, Ohio, on the 9th of April.—Mr. George Alvin Richter (Yes, that's George) became a benedict on the 30th of June at Berlin, N. H. His bride was Gladys L. Coddington.—On July 7 at Springfield, Captain Arthur Edward Bellis, U. S. R., was married to Mabel S. Wilson.—It is the secretary's pleasure to record the marriage of himself to Ardath E. Ramsdell on August 11 at Buffalo, N. Y.

As might be expected of a class containing so many venturesome spirits, a good many men are in military or government service. Bill Mattson, who has been indefatigable in his efforts to form a Massachusetts engineer regiment, now holds a commission of first lieutenant in the First Mass. Engineers of the National Guard.—A. L. Brown, II, has been commissioned lieutenant in the ordnance department and expects to be called shortly. He is temporarily with the New England Culvert Co., Nashua, N. H.—Among the list of twenty-five successful candidates in the examination to fill existing vacancies in the grade of assistant engineer, U. S. N., were six Tech men, and among them Joe Strachan, I. The examination was a stiff one, 25 only surviving of 190 candidates. A typical problem, for instance, was to design a five-story reinforced concrete factory building, slab, beam and girder construction, in 45 minutes. But that was easy for Joe, and he is now lieutenant in the U. S. N., stationed temporarily at Annapolis, in training.—Gene McDonald, I, enlisted in the First Reserve Engineers which trained at Fort Totten, N.Y. Gene writes that he grabbed a corporal's job the first day by pleading previous experience in the drill at Tech, and later was laid out as sergeant on the bull that he threw concerning engineering experience. Gene's regiment is now in France.—Hilding N. Carlson has been appointed an instructor in the Military School of Aeronautics, which has just been established by the government at Tech. He is in charge of the department of radio and wireless telegraphy. Carlson recently visited Canada to study the work of the aerial army and visited the School of Aeronautics of the Royal Flying

Corps of Canada.—Robert H. Woods, who has been with the Southern Power Co., at Charlotte, N. C., has his commission as lieutenant in O. R. C., Ordnance, but has not yet been assigned to duty.—Ben S. Munch, II, secretary of the G. E. Prentice Machine Co., of New Britain, has his lieutenant's commission in O. R. C., Ordnance, and is waiting to be assigned.—At last Ralph Rankin, VI, has realized his greatest ambition, to become a member of the U. S. Navy. He is in the First Aviation Section, First Battalion Naval Reserve of New York. High flying was always in Ralph's line and we are not surprised to find him in the aviation section.—E. C. Gere holds a commission of second lieutenant in cavalry, O. R. C., and is at Plattsburg.—Among those now attending the American University in Washington, which is an advanced Plattsburg particularly for candidates for the engineer officers' reserves, are four classmates: John F. Foley, Elliott Gage, Ralph L. Thomas (who is a first lieutenant), and Lee Walters.—Our newlywed, George Richter, is working in gas research for the government in Washington.

Returning to civil life, we read in the Los Angeles *Tribune* of June 22, that Dr. Charles Burdick, III, of the Massachusetts Institute of Technology, read a paper on Atomic Structure of Crystals as Determined by the X-Ray, for the southern Californian section of the American Chemical Society.—Walter Bylund, II, with the Hyatt Roller Bearing Co., holds the position of advertising manager. The Hyatt Co. are large advertisers we might note.

It is now, after three years, that we begin to record actual achievements of our fellows who have up to this time been mostly concerned with getting in the right line of work. Brockton, Mass., is a large New England industrial city and it is to the credit of the class that Harold S. Crocker, X, is the city engineer.—Miles Langley, I, finished his career as professor in Bowdoin College at Commencement, and is now traveling for the brokerage concern of Coffin & Burr of Boston.

On June 12 we had a dinner at our old stamping ground, the Brunswick. Bill Mattson was toastmaster, and from him we learned that it was an excellent dinner with no set speeches, no poor jokes (or good ones), and only a short informal talk by the Hon. "Hap" Peck, who had the honor of suggesting the idea that the class buy a Liberty Bond. Ken Blake, XIV, made some interesting remarks on the subject of color-photography. Easing back in plush chairs in the Brunswick, on full stomachs, business was out of the question except to recommend that the secretary purchase a Liberty Bond and try to collect the money to pay for it. The evening came to a close quietly, with no broken dishes.—I. W. Knight, VI, is with the General Fire Extinguisher Co., doing experimental work in connection with their Rector System. He will be called in the first draft.—W. S. Boynton, II, has enlisted as engineer with Base Hospital 39 from Boston. This is a federal

unit taken largely from the Massachusetts Homeopathic Hospital excepting engineers and electricians. He expects to go to France in September.—Lester Hoyt, V, is the proud father of a daughter, Virginia, born July 16.—William S. Black, III, is superintendent of the Ajax Mine in the vicinity of Pike's Peak, Colo.—Charles W. Albee, X, thinks he will be called in the second draft.—Austin K. Wardwell is in the Naval Reserves, 3rd Naval District. He published in the *Engineering News* of January 25, a solution of the spherical part segment problem.—A. M. Loeb, II, is engineer of the firm of Alex Loeb, Inc. He married Barbara Switzer of Vicksburg, Pa., on June 21.—Ted Herson, VI, is manager of the electrical department of the American Printing Co., of Fall River.—Albion Davis, I, is still watching the Mississippi in its whims at Keokuk, Ia. He has designed a compressed air system for relieving the ice pressure against the steel gates of the 4,500 ft. dam.—Edgar Menderson, II, is sales manager for the Mason-Towle Co., of Detroit. He is engaged to Miss Melanie H. Freidenberg of Detroit.—E. Gordon Taylor is still scouting about *à la Diogenes* in the quest of knowledge, or as he puts it, "to get further enlightenment in the mysteries of the universe." For the past two years he has been an assistant in the Physics Department of the University of Wisconsin and doing graduate work in that department. He is working on a thesis on X-Rays and hopes to take his doctor's degree shortly. He is at present chemist for the Gisholt Machine Co., of Madison, Wis.

The first returns from the annual letter indicate that a large number of men are engaged in government work: F. T. Robinson is with the navy, in the Bureau of Yards & Docks located in Washington.—Laird Pierce, IV, is at the officers' training camp at Fort Niagara, N. Y.—E. L. Bray, VI, is drawn in the first draft; he is married. He is handling auxiliary semi-Deisel oil engines for many wooden sailing schooners being built.—L. Pierce, X, is drawn in the first draft.—Charles A. Reed, Jr., is in the aviation service.—The *Chicago Daily News* publishes a picture of the "J. B." owned by John Blatchford, III. Blatchford is commanding officer of his own motor cruiser which is attached for service to the U. S. Naval Reserve Force. In addition he is chemical engineer to the Mariner & Hoskins Co.—Andrew Carmichael, XIII A, assistant naval constructor, U. S. N., was married January 17 to Miss Sarah E. Powell.—H. F. Sutter, I, is engaged in the investigation of dangerous highway crossings in Maine, in conjunction with the Public Utilities Commission.—Allison Butts, III, is assistant editor of the journal, "*The Mining Industry*." Butts will be drawn in the second draft.—C. E. Smith, II, is chemist of the Charleston Filtration Plant.—L. M. Hecht, VI, considers himself the happiest man in the world, for the reason that he is engaged and is to be married in January.—Earl Caldwell, X, has the responsible position of manager of the National Abrasive Co., at Niagara Falls.—Phillip

B. Burt, VI, thinks that he may be invited to join the National Army in the second draft. He is engaged to Miss Gladys M. Calhoun and expects to be married in the Fall.—John G. Lanning, VI, is working on the manufacture of practically all of the safety valve equipment for the new navy vessels and a large percentage of the pressure gauge equipment for these vessels and locomotives to be sent to England, France and Russia.—Earl Gagnon, II, is still at West Rutland, Vt., and is spending a large part of his time on a war garden. He finds hoeing potatoes much harder than leaning on a drawing board.—Clarence Berry, VI, is doing research work at Nela Park and has made two inventions this year: one is a relay operated by a single wire and controlling two independent circuits, the other is a single control wire remote control switch for turning on and off lamps. He is working at present on another invention for steadyng the voltage on movie lamps. We wish you luck on this last one Clarence; it will result in a great blessing to humanity.—Mechanical superintendent is the title of George E. Leavitt, Jr., II, of the Southern Cotton Oil Co.—Bob Bonney, X, is the father of Barbara, born on March 7.—Allen Wood Spicer, X, is on the staff of the general superintendent of the E. I. du Pont de Nemour Co., Arlington Works.—During the last year Ellis Brewster, II, has been made assistant superintendent of the Plymouth Cordage Co. He has the following letter from Lehmaier:

Your letter of May 12, 1916, reached me yesterday, April 7, 1917. We are just in the middle of a tremendous attack in the vicinity of Cambrai, so you can readily understand how rushed I am, especially as it is my lot to be the commanding officer of a rather important section of line. My best wishes to all '18, coupled with an ardent desire to meet them all again in a few months when the war is over. I'll bring "Mrs. Lammie" along with me. Tell Ike Litchfield and Fred Murdock that I married Kitty Bradidge Phillips of Sydney, Australia, in London at the Royal Chapel of the Savoy on March 31. Best of good luck, old man.

Lammie's address is Captain L. Lehmaier, 4th Brigade 1st A. I. F., France.—E. B. Cotton, II, is a junior engineer of the U. S. Government.—We have a bit of news for those who know Henry A. Burr, I. He was married October 4, 1916, and has a daughter. Indeed Henry stole quite a march on us. Mrs. M. P. Schlinger was his bride.—F. Williams, II, is in charge of the educational department of the Lamson Co., Boston. He has been appointed first lieutenant, O. R. C., and is waiting for orders.—In addition to handling the acoustical engineering work in the West for the Johns-Manville Co., Larry Hart, XI, is the manager of the asphalt department.—A. C. Goodnow, X, became on January 13 of this year, the father of a daughter. He is in business with his father, G. F. Goodnow, '88, consulting gas engineer of Chicago.—Arthur Kay is in France with the Royal Canadian Horse Artillery.—"Rusty" Sage, I, replies to our letter that it is too hot to make any remarks fit for publication. "Rusty" thinks the draft is as complicated as Lanza's "Applied Mechanics,"

so he hasn't tried to figure his chances of being called.—“Dutch” Franzhiem, IV, has just completed eight weeks’ “ground work” in aeronautics in the University of Illinois. He hopes to start pushing clouds immediately and expects to be in France by the Fall.—F. W. Eaton, XIV, will be drawn in the second draft.—Somehow the important matter of Jimmie Beales’, XI, marriage escaped our attention, and we report it now, to Miss Sarah Tappan.—E. W. Taft, VI, will be drawn in the first draft. He is working for the Winchester Repeating Arms Co.—L. L. Custer, II, is president of the Custer Specialty Co., manufacturing the Custer Statoscope used on balloons and dirigibles to determine accurately whether the aircraft is rising or falling. Soon we shall have a machine which will allow persons in certain conditions to determine whether they are going or coming.—Joseph Oppenheim, V, reports that he has a son, Lloyd B., born September 10, 1916.—E. B. Norton, XIII, is superintending constructor, U. S. Navy, at the Lake Torpedo Boat Co., Bridgeport, Conn.—David B. Nason is in South Africa for the Helburn-Thompson Leather Co.—Donald M. Giles, III, is in the second draft and is applying for a commission as a lieutenant of ordnance.—Raymond W. White, II, is in the first company, Mass. Coast Artillery, National Guard.—Max Harrington, XI, was drawn in the first draft.

Address Changes

Mr. Herbert B. Alvord, 228 Commercial Trust Bldg., Philadelphia, Pa.—Mr. Albert C. Brown, 2401 Grand Ave., Parsons, Kans.—Mr. Winthrop E. Caldwell, Amesbury, Mass.—Mr. Edward F. Coleman, Elmwood, Mass.—Mr. Samuel S. Crocker, Jr., Marion, Mass.—Mr. Zenas Crocker, Jr., care of Hotel Westminster, Boston, Mass.—Mr. Stanley H. Davis, care of Toledo Rys. & Light Co., Toledo, O.—Mr. Prescott V. Kelly, 24 Pleasant St., Haverhill, Mass.—Mr. John W. B. Ladd, 700 Independence Blvd., Chicago, Ill.—Mr. Lawrence H. Matthews, 607 North Delaware St., Indianapolis, Ind.—Mr. Mark W. Reed, 78 Pinckney St., Boston, Mass.—Mr. Francis H. Archard, Colonial Apartments, Wilkinsburg, Pa.—Mr. Gardner R. Alden, 27 Beverly St., Melrose, Mass.—Mr. Angele Corrubia, 4857 Fountain St., St. Louis, Mo.—Mr. Frederick W. Lane, 929 Yale Station, New Haven, Conn.—Mr. Horace M. Lawrence, care of Kennecott Copper Corp., Latouche, Alaska.—Mr. Earle R. Lincoln, 419 Biddle Ave., Wilkinsburg, Pa.—Mr. Frederick T. Morse, Marceline, Mo.—Mr. Joseph A. Tennant, 405 Hadley Ave., Houston, Texas.—Mr. Henry H. Thompson, 122 Chesnut St., Springfield, Mass.—Mr. Andrew Vogel, 39 Hilton St., East Orange, N. J.—Mr. Austin K. Wardwell, Y. M. C. A., Montclair, N. J.—Mr. Walter L. Whitehead, Geological Library, Mass. Institute Technology, Cambridge, Mass.

1915.

WILLIAM B. SPENCER, Sec., 544 N. Grove St., East Orange, N. J.
FRANCES P. SCULLY, Asst. Sec., 5 Exeter Park, Cambridge, Mass.

The news of this issue for the class of 1915, is divided between two topics, war and social. The latter is more prominent at this time on account of the number of fellows who have been married or become engaged this spring and summer.

On June 11, in Brookline, Mass., our Class Day Committee chairman, George R. Urquhart, and Miss Ruth Lyman were married. Mr. and Mrs. Urquhart will live at 822 Ackerman Ave., Syracuse, N. Y. Ted Spear and Tom Huff assisted at the wedding as ushers.

Tom Huff, himself, has been so surrounded with wedding atmosphere recently, that he also had to become engaged. On Thursday, July 12, Mr. and Mrs. J. A. Lane of Plainfield, N. J., announced the engagement of their daughter, Aline, to Tom. Tom is working in Plainfield, in the aeroplane business. We thought from reports that he would have no chance with the girls, he has been kept so busy traveling about the country. Evidently, he has made good use of every spare moment. No date for the wedding has been set.—Everett R. Brigham and Miss Grace MacLennan were married in Boston on June 20. George Nixon was best man. Brigham is employed in the sales department of the Boston Metal Fireproofing Company. He and his bride will reside in Everett, Mass.—Bertran E. Adams of Brookline, Mass., and Helen B. Berkenmayer, were married in Portland, Maine, on Friday, June 29. Adams works in Boston.—The engagement of Otto Hilbert and Miss Helen James of Medford, Mass., was announced in the early part of July. Otto is employed at the Corning Glass Works, Corning, N. Y.—Edmund R. Stearns and Amy S. Ford were married June 30 and will live in Cleveland, Ohio.—William Mellema, of Paterson, N. J., is engaged to Miss Lillian Heck, also of Paterson, N. J.

The censor is pretty tight but we have learned news of a few of the boys in war service. As the new National Army is formed many more will be found doing their bit.—Henry Nieman, of West Newton, Mass., has been commissioned assistant civil engineer in the United States navy with the rank of lieutenant, junior grade.—Arthur Bond also has joined the civil engineering department of the navy. He is assistant civil engineer, Bureau of Yards and Docks, U. S. Naval Academy, Annapolis, Md.—R. W. Wetherald is in the Curtis School of Aviation, Newport News, Va.—Edward C. Davis is detailed with the U. S. S. "Milwaukee," Pacific Station San Francisco, Cal.—Bud Thomas, II, is now instructing in the army aviation school at the Institute. Bill McEwen, II, who was with Bud at the Springfield armory, may receive an appointment in the same capacity to the navy aviation school at the Institute.

—Clive Lacey, VI, is now utilizing his merchandising experience gained at Filene's in the service of the government. He is at present at Washington in the ordnance department.

George T. Rooney, I, is now with the Atlantic Refining Company in Philadelphia. His success on the New York subway enabled him to obtain a very responsible position as their representative on construction work.—Lester Morse, I, is still on the subway at New York with his old running mate "Andy." —John Bauer, I, who pitched on our freshman baseball team, has finally turned up again. He is now with the Lord Electric Company, 105 West 40th street, New York. He writes that he met Jim McIntyre down in Montgomery, Ala. He adds, that Jim is just as much of a ladies' man as ever. Jim has a mortgage on everlasting fame,—he won the first modern dancing exhibition ever held in Boston, and his skill in this respect won him a full page in the Sunday *Post*.—Weare Howlett, X, writes from the Belmont apartments, Wilmington, Del. After the usual apology for delaying he says:

First of all, I'm just crazy about my job. It is entirely research with lots of good chances to develop new materials. I am at the experimental station right on the banks of the Brandywine. There are about seventy chemists at the station and some electrical engineers as well, all fine fellows. Bill Rooney, VI, and Rogers, X, of our class are out there. For amusement we have three tennis courts and last week they gave us each a plot of land 25'x 85' to cultivate. My hours are 8-12 and 1.30-4.30 with Saturday p. m. off so you see I have plenty of time to hoe my potatoes and beans."

Weare is working on a substitute for leather.—E. B. Cooper, I, who was one of our best little entertainers at summer camp, is now general manager of the Gibson-Hollister Manufacturing Company of Boston. This concern specializes in spark plugs and automobile specialties and is rapidly expanding.—Allen Abrams, X, is still with the Bemis Bag Company. He was seen during the recent hot spell disporting himself on the sands of Nantasket.

The class held its second dinner of the year at the Engineers Club on the 14th of April. Brigadier Flamand, who had recently returned from France, gave a very instructive talk on his personal experiences at the firing line. About twenty-five were present.

The number of men who are leaving the engineering field to engage in other lines of business is constantly increasing. Tad Fessenden is now an insurance broker with offices in the Nottingham Chambers, Huntington avenue. Any of the boys who expect to become imbued with a desire for European travel in the near future might do well to have a little friendly chat with Tad.

The interest of the graduate in the activities of the Institute is not always appreciated as evidenced by the recent experience of your assistant secretary. While watching the setting-up exercises of one of the various classes held on the football field, he was approached by a ground keeper and asked very sharply what his

business was. Frank replied that he was just watching and was then informed that articles had been lost from the student's clothes and that they necessarily must keep a close watch on strangers. We wonder if the contracting business makes one look like that.

We are glad to hear of the appointment of Roscoe G. Dickinson as instructor in analytical chemistry at Throop College, Pasadena, Cal.

We know that in the great events to come more than one man whom we came to know as a very close friend in our days at the 'Stute will be called upon to do his share in the service of the country. It is the earnest desire of the secretary that the class be informed of the men's activities and consequently we ask you to take a few minutes now and then to drop a line to either of the men whose names appear at the commencement of this letter.

1916.

JAMES MORRISON EVANS, *Sec.*, 17 Grammercy Park, New York,
N. Y.
DONALD BLAKE WEBSTER, *Asst. Sec.*, 18 Clarendon Street, Malden, Mass.

The war has put a decided crimp in the promising business careers of most of the Sixteeners, and although news has been coming in rather slowly with the unsettled conditions prevailing, the bits that have arrived indicate that the class is showing its usual driving power in the matter of getting into national service of one sort or other. A great many have already enrolled in the technical branches of the line and staff of the army, a few in the navy, and still others in various forms of industrial service. By the end of the year we should have a class honor roll of quite healthy proportions. Opulence seems to prevail among the members as a whole, and matrimony claims its victims accordingly; some of our finest having succumbed since April. War and matrimony to the contrary notwithstanding, we still found time for our first annual reunion dinner on the evening of Class Day, June 12, at the Lenox in Boston, and forty-one of the fellows in and about Boston gathered for a very informal and "cut-loose" affair. The dinner was quite reminiscent of our last undergraduate blow-out a year ago, when notices favorable and otherwise were opened to the tune of cowbells and tin horns. Rusty White did the toastmastering, and he had the foresight to provide various forms of mechanical noise for the benefit of the crowd that had received their belated S. B.'s that day, among them Chuck Loomis, George Kittredge, Clint Carpenter, Dan Comiskey, George Duryea and Mac McDaniel. Ray Stowell came through with an M. S. and was accorded the additional noise that the distinction required. Captain Williford of the Coast Artillery Corps, U. S. Army, was our only outside speaker, but with the native talent displayed

in addition by Steve Brophy, Tommie Little and Rusty White, the head table more than did its bit. Present at the dinner were Richard L. Ahearn, Mark Aronson, Dana N. Barker, S. Ross Berkowitz, Horace L. Bickford, Thomas D'A. Brophy, Frank W. Buckman, C. Clinton Carpenter, William S. Chandler, Edward H. Clarkson, Daniel L. Comiskey, Robert A. Crosby, Theron S. Curtis, George R. Duryea, James M. Evans, Ralph A. Fletcher, Hovey T. Freeman, John R. Freeman, Jr., Gilbert H. Gaus, Carl T. Guething, Frank V. Hastie, Edgar L. Kaula, Emory L. Kemp, Albert E. Kleinert, George D. Kittredge, Edgar F. Hanford, William A. Liddell, Thomas W. Little, Charles W. Loomis, Charles J. McCarthy, Irving B. McDaniel, Charles S. Makepeace, Thomas F. McSweeney, Phillips G. Morrison, Kenneth C. Richmond, Raymond E. Smith, Porter C. Webber, Donald B. Webster, Russell H. White, Raymond M. Stowell.—First on the list of new benedicts comes Chuck Loomis, who was married on Tuesday, June 7, to Miss Helen Margaret Clark in Wellsville, N. Y. Chuck has enrolled in Company C of the Reserve Regiment of Railway Engineers along with Raef Alfaro, and they are now both in training at Rockingham Park, N. H.—Mac McDaniel announced his marriage on June 30 to Miss Katharine Marshall Huntington in New York City. Mac took the ten months' intensive course in Naval Architecture at the 'Stute and is at present in the Charlestown Navy Yard taking a four months' course in drafting. George Duryea is taking the same course there.—Dodie Dunn was married in Cincinnati, Ohio, on June 27 to Miss Helen Irwin Justis.

From the *Boston Transcript* of June 19:

Mr. and Mrs. Alfred P. Sinclair announce the engagement of their daughter, Eleanore Elizabeth, Sargent School class of 1915, to Mr. John Mills Phillips, Technology 1916.

—On June 20, George Sweet was married to Miss Lina Doris Hamilton in Milford, Mass.—On April 18, in Quincy, Mass., Frederick Sutermeister was married to Miss Ruth Arolyn Pease.

From the *New York Herald* of April 15:

A large number of friends in Boston and Cambridge are interested in the engagement of Miss Barbara Chase, daughter of Mr. and Mrs. Henry W. Chase of Canaan, N. H., formerly of Cambridge, and Mr. Arthur P. Caldwell, Jr., of 306 W. 94th street, New York, which has lately been announced.

Most of the following items were received from the various members of the class prior to June 1, and it is presumable that a number of the fellows have entered the government service since that time, for whom we have no subsequent statistics.—Dick Berger is in the laboratories of Thomas A. Edison at West Orange, N. J., as an experimenter, or "mucker" in the vernacular of the lab. He concludes:

Lately I have been doing some government work, the exact nature of which must be kept secret.

—Meade Bolton writes from Balboa Heights, Canal Zone, where he is a draftsman and architectural designer working on buildings in connection with the Canal.—Jap Carr passed his examinations for a second lieutenancy in the Engineer Officers' Reserve Corps, has obtained his commission and is awaiting assignment to active duty.—Carl Carstens has been since graduation with the Anaconda Copper Mining Company in Anaconda, Mont., and is now assistant research engineer with them.—Joel Connolly has been back at the Institute taking advanced courses in sanitary engineering and public health work, leading to the degree of master of science.—Aime Cousineau is with the Health Department of the City of Montreal, Canada.—Vic Dunbar, since leaving the Institute in the spring of 1914 has been with the Yates Drug and Chemical Company of New York City, and says laconically, "Not yet married."—John Eberhardt was with the Inspection Department of the Associated Factory Mutual Fire Insurance Companies until April, 1917, and since then has been in the engineering department of the Sayles Finishing Plants at Saylesville, R. I., engineering everything from dams and bridges to garages.—Sammy Ellsworth has been with the Massachusetts State Department of Health working on the improvement of the Neponset River.—Jack Freeman writes an interesting letter of his trip through Japan, China, the Philippines and the Hawaiian Islands this winter. Previous to the trip Jack was at the 'Stute taking the new course in chemical engineering practice.—Jeff Gfroerer was with the Carver Cotton Gin Company of East Bridgewater during the fall and winter on work in connection with machine design, but is at present in the course for machine gun instructors at the Springfield Armory.—Lester Giles is with the Aberthaw Construction Company on outside work, and has been on construction in Hartford and New Britain, Conn.—John Hood and Ed Goldstein are both in the Pacific Mills in Lawrence. Ed is doing coal analysis work and John is cost accounting.—Murray Graff is with the Buffalo Service Department of the Westinghouse Electric and Manufacturing Company in Buffalo, N. Y.

1917.

WALTER L. MEDDING, Sec., 206 Ferry Street, Malden, Mass.
ARTHUR E. KEATING, Asst. Sec., 893 Seaview Ave., Bridgeport,
Conn.

The commencement program this year was materially reduced, owing to the seriousness of the war situation. The customary senior dance, picnic and class day exercises were omitted and only the baccalaureate sermon and class dinner were held in addition to the simple graduation exercises. These exercises consisted merely of a brief address by Dr. Maclaurin, the reading of representative

theses, and the awarding of degrees. The presentation of the two magnificent flag poles by the classes of 1885 and 1892 followed immediately, and the ceremonies closed with the "Star Spangled Banner." Many of the professors then held informal receptions and the buildings were thrown open for inspection.

Graduation did not seem to carry so much importance this year as usual, for many of the class had received their "notices" long before final exams and had left to enter or to prepare for various branches of governmental service. Those who took the coast artillery and mobile army examinations in April did not leave the Institute, consequently the first large group to do so was made up of those who took the course in naval architecture under Professor Peabody. In this group were: Eddy, Bill Sullivan, Jack Wood, Colby, Neuman, Coburn, Tuttle, Gramstorff, Killorin, Fineman, Rizzo, P. D. Childs, F. C. Rogers, F. M. Hatch, and others.

They went to work at the Charlestown Navy Yard on July 1, having finished their course at the Institute.

Due to the efforts of Sam Kuhn, Tubby Strout and Art Miller, a course, under the direction of Professor Spofford, was started to enable about thirty men to review for the examinations for commissions in the engineer corps. The following took the course and the exams: Atkinson, Bailey, Black, Campbell, Campion, Cristal, Dickson, Fay, Hannah, Harlow, Hastie, Kuhn, Lohmeyer, McDonald, Medding, Meloy, A. M. Miller, Niles, Paul, Peterson, F. C. Rogers, Strout, Twomey, Whitney.

Fritz Althouse, Deac Young, and Ken Richmond also took the course, but Richmond entered the naval training school and the other two plan to take the examinations this fall.

Just as this preparation was beginning, the Technology delegation left for Plattsburg. In this crowd were several from 1917: Batchelder, Bell, E. P. Brooks, Dunning, Hill, Lane, Lobdell, Moody, Ryan, Senter, Doon, Robinson and Littlefield.

Sid Batchelder has since returned to the Institute to attend the school of aeronautics where Sub Marine was already studying. We are told that Walt Wood is also learning to fly at another aviation school.

Not much has been learned of the 1917 men who took the ordnance examinations at Watertown,—apparently men with more experience were wanted. Marsilius, however, profited by several years of working for the United Shoe Machinery Company, and he now wears "U. S. R." on the collar of his uniform. Claude Roberts is also a first lieutenant in the ordnance reserve, and has recently been stationed at the Institute.

As for the 1917 men in the navy, George Igleheart left early in May to join the Mosquito fleet; Joe Morse is at the Harvard radio school, and Ken Richmond and Stan Cooper are learning to tie knots and to work a sextant at the Institute's naval reserve school. Forrest P. Sherman of Melrose, who was with us for only one term

of our freshman year, graduated second in his class at Annapolis in June. He is now in active service.

From Detroit comes the news that Fred Smith, XV, has gone with the M. I. T. unit of the American Ambulance Field service as an ambulance driver.

Chuck Loomis was one of those to enlist in the quota of railroad engineers who were booked for Russia.

Many others of the class are just awaiting developments in the war situation, and several have been married or have announced their engagements. Under the date of June 17, the *Boston Globe* says:

The marriage of Miss Katharine Clark, the daughter of Geo. W. Clark, a banker, and Francis Victor du Pont, son of Gen. Coleman du Pont of Wilmington, Del., took place last evening in the First Congregational church of Northampton at 7.30, Rev. Wendell P. Keeler officiating. . . . The groom was graduated this month at the Massachusetts Institute of Technology and is to be an instructor at the government school of aeronautics which has been established there. After a short wedding trip on the groom's private yacht, the "Tech," Mr. and Mrs. du Pont will be at home at 25 Kenmore Road, Newton Centre.

Briefly we have also learned of the marriage of I. W. Young and Miss Marjory Mylod of Providence, on June 3; Bruce S. Nichols and Miss Dorothy Hooper on June 2; Howard R. Stewart and Miss Marion L. Whitcomb of Littleton on June 20; and Leander H. Hills and Miss Betsy L. Emerson of Rowley on July 7. The *Boston Transcript* for May 5 has this item:

Miss A. W. Torrey has announced the engagement of her niece, Amie Torrey Walker, to William West Eaton, son of Commodore W. C. Eaton, U. S. Navy, and Mrs. Eaton of Hamilton, N. Y. Miss Walker is a member of the senior class of Miss Wheelock's school, 100 Riverway, and Mr. Eaton of the senior class of the Massachusetts Institute of Technology.

The Boston *Globe* for July 8:

Mr. and Mrs. George Sully of Brooklyn, N. Y., formerly of Malden, announce the engagement of their daughter, Miss Edna Marriner, to Mr. Edwin Drew Reynolds of Danvers. Miss Sully is a recent graduate of the Montessori training school of New York and Mr. Reynolds of Technology 1917.

Cards are also out for Frank Hubbard's engagement.—Paul Leonard is summer general manager of *The Tech* and is also acting as assistant registrar in Mr. Wells' absence. Several are back as instructors, either at the Institute or at Summer Camp. Angas McDonald and DeBell are among the number.—Jimmy Anderson won second prize, \$50, in the competition for "The Nelson Prizes in Plumbing" offered by the Cast Iron Soil Pipe Makers' Advertising Association. Jimmy's paper was "A Study of the Different Types of Pipes Used in the Disposal of Rain Water from Buildings," and he deserves much credit, since many practising sanitary engineers and college instructors competed.

We hope that every man in the class will realize his obligation to the Institute and his opportunity for service by joining the Alumni Association and supporting its publication, the *TECHNOLOGY*

REVIEW. A glance through its pages will show clearly how indispensable the REVIEW is to every Tech man.

The Alumni Office has carefully compiled a list of the members of the class and their addresses. As corrections become necessary, please communicate immediately with the secretary. Corrections, as received, will be published in the future class notes in the REVIEW.

NOTICE:—This number of the "Review" is being sent to every member of the class, graduates and non-graduates. Graduates, by virtue of their degree are members of the Alumni Association. They will receive the "Review" for the balance of the year free; their first quarterly dues, \$2, should be sent to Walter Humphreys, secretary, in January, for the year 1918. Non-graduates may become regular members of the Alumni Association by applying for membership on the blank which will be sent them and sending \$2 to Walter Humphreys, secretary. Those who apply now will receive the "Review" free until January 1; the \$2 pays for dues and subscription to the "Review" for 1918. In order to be sure of the "Review" send in your \$2 now and ask for a membership application blank.

The Class of 1917

Dickson, John B., 885 Massachusetts Ave., Cambridge, Mass.; Dolmage, Victor, Souris, Manitoba; MacRae, Duncan, Wilson, N. C.; Venable, Charles S., Chapel Hill, N. C.

Hada, Tsunezo, Sonomura, Hikawa, Shimaneken, Japan; Walker, Edward Cyrus, 3d, Batavia, N. Y.

Andrews, George A., Grand Haven, Mich.; Batschy, John M., 316 S. 12th St., Quincy, Ill.; Blakemore, Thomas L., 7627 Hiawatha Ave., St. Louis, Mo.; Canan, William D., Tyrone, Pa.; Cargill, William W., 518 Wisconsin Ave., Madison, Wis.; Cebrian, Harry de Lareaga, 1801 Octavia St., San Francisco, Cal.; Coldwell, Everett Sharples, 17 Gramercy Park, New York City; Conklin, Oliver E., 31 Norway St., Boston, Mass.; Connolly, Joel I., 7 Fenno Pl., Dorchester, Mass.; Cook, Alton Aldrich, Morgantown, W. Va.; Crisp, Frederick G., 10 Dana St., Cambridge, Mass.; Enright, Earle F., McCook, Neb.; Fulton, Garland, Charlottesville, Va.; Gayhart, Everett L., 107 Bedford Ave., Buffalo, N. Y.; Gibbon, Charles O., 300 E. Main St., Millville, N. J.; Gorrell, Edgar S., Aviation Section, S. C., U. S. A., War Dept., Washington, D. C.; Hanson, Alfred E., Bureau of Standards, Div. 2, Washington, D. C.; Hogan, John F., 17 Beech St., Pawtucket, R. I.; Loo, P. C., Shanghai, China; McKone, Frank E., Dover, N. H.; Martin, Harold S., Aviation Section, Washington, D. C.; Melvin, Howard L., 308 Howard St., Pullman, Wash.; Pace, Ernest M., Jr., Calvert, Texas.; Paine, George T., Warwick, R. I.; Perry, Harold H., 2230 Center Ave., Bay City, Mich.; Sandlas, William H., 4309 Liberty Heights Ave., Baltimore, Md.; Saunders, Harold

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